

European business

Facts and figures

Data 1995-2004
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**European business -
Facts and figures**

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**Director of Directorate G -
BUSINESS STATISTICS:**

Mr. P. Everaers

**Head of Unit G1 -
STRUCTURAL BUSINESS STATISTICS:**

Ms. I. Öhman

Editor and project co-ordinator:

Mr. U. Johansson

Further information:

Specific questions relating to structural business statistics or their use in publications should be sent to estat_sbs_questions@cec.eu.int

Production:

data processing, statistical analysis, design and desktop publishing
INFORMA sarl
Giovanni Albertone, Simon Allen, Séverine Gautron, Andrew Redpath, Markus Voget
informa@informa.lu

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Guide to the publication

This section provides a general introduction to the contents of the publication and the structure of the analysis, as well as important information for understanding/interpreting the data presented.

STRUCTURE OF THE PUBLICATION

European business aims to provide a standard set of information for industrial, construction and service activities within the EU-25. The data provided in European business presents a snapshot of output (in terms of value added or turnover), employment and external trade, as well as longer-term developments through the use of annual indices of production, turnover, output prices and employment.

European business is divided into four main sections:

1. The first chapter provides a general overview of the EU-25's business economy, looking at changes in output, employment and external trade;

2. The second section provides a sectoral breakdown of industrial activities and is divided into 13 separate chapters, most of which contain a number of subchapters. Each chapter concludes with a statistical annex presenting structural business statistics.

Chapter 2: Energy

Chapter 3: Non-energy mining and quarrying

Chapter 4: Food, beverages and tobacco

Chapter 5: Textiles, clothing, leather and footwear

Chapter 6: Wood and paper

Chapter 7: Chemicals, rubber and plastics

Chapter 8: Other non-metallic mineral products

Chapter 9: Metals and metal products

Chapter 10: Machinery and equipment

Chapter 11: Electrical machinery and optical equipment

Chapter 12: Transport equipment

Chapter 13: Furniture and other manufacturing industries

Chapter 14: Water supply, sewerage and waste management

3. The third section provides information for construction and real estate activities.

Chapter 15: Construction and real estate

4. The fourth section provides a sectoral breakdown of service activities and is divided into eight separate chapters (again with subchapters and a statistical annex).

Chapter 16: Motor trades

Chapter 17: Wholesale trade

Chapter 18: Retail trade

Chapter 19: Tourism

Chapter 20: Transport services

Chapter 21: Financial services

Chapter 22: Business services

Chapter 23: Communications, information services and media

Nearly all of the chapters in European business begin with an overview of the activity covered by that chapter. The chapters are structured principally according to the NACE Rev. 1.1 classification of economic activities ⁽¹⁾. The commentaries concentrate largely on the two- and three-digit level of the NACE, which is a hierarchical classification made up of sections (one-letter codes), subsections (two-letter codes), divisions (two-digit codes), groups (three-digit codes) and classes (four-digit codes). NACE establishes a direct link between the European classification and the internationally recognised ISIC Rev. 3 developed under the auspices of the United Nations. These two classifications are directly compatible at the two-digit level.

⁽¹⁾ Commission Regulation (EC) No 29/2002 of 19 December 2001 amending Council Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community.

This edition of European business continues the efforts made in recent years to focus increasingly on official sources of information, as the European statistical system continues to make advances. The compilation of industrial data has followed a different historical development to that for other sectors of the business economy, as it is generally easier to compile activity and product statistics about goods/merchandise than it is to collect information, for example, relating to knowledge or information-based services. Hence, the balance of this publication reflects to some degree the information that is currently available from official statistical sources. There has, however, been a major improvement in European data availability for service sectors during the last decade and most Member States now compile annual structural business statistics for these activities. As a result, the proportion of this edition dedicated to service sectors has been expanded. In a number of specialised areas use has been made of alternative Eurostat databases, notably in the areas of energy, water supply, sewerage and waste management, and transport.

GUIDE TO THE STATISTICS

Two types of data sources can be distinguished: those originating from official sources (collected normally by the national statistical institutes in each Member State) and those provided by professional trade associations (representative organisations of various activities) and other non-official bodies. Tables and figures presenting data from non-official sources are easily recognised as they appear in a shaded box. Both European business and its predecessor the Panorama of European industry have benefited from the cooperation of a wide variety of professional trade association bodies representing industrial and service activities within the EU.

Time frame

The majority of the data presented within this edition of European business was extracted from Eurostat databases during the middle of August 2005. The text was written during the third and final quarters of 2005.

Data are generally available for 2002 for structural business statistics (SBS), for 2003 for industrial product (PRODCOM) statistics, and for 2004 for external trade (Comext) statistics, the Labour Force Survey (LFS) and short-term business statistics (STS). Fresher data may be available by consulting Eurostat's web-site at: <http://europa.eu.int/comm/eurostat>. Users of the CD-ROM that accompanies this publication may also access Eurostat data in a variety of formats through the DATA component.

Exchange rates

All data are reported in ECU/EUR terms, with national currencies converted using average exchange rates prevailing for the year in question. As of 1 January 1999, 11 of the Member States entered into an economic and monetary union (EMU). These countries formed what has become known as the euro-zone. Technically data available prior to that date should continue to be denominated in ECU terms, while data available afterwards should be denominated in euro. However, as the conversion rate was ECU 1 = EUR 1, for practical purposes the terms may be used interchangeably and this publication denotes all such monetary series in euro. On 1 January 2001, Greece also became a member of the euro-zone.

While the conversion to a common currency of data originally expressed in national currencies facilitates comparison, large fluctuations in currency markets are partially responsible for movements identified when looking at the evolution of a series in euro terms (especially at the level of an individual country). For the exchange rates used, please refer to Table 1.

Table 1
Average exchange rates against the euro (1 EUR = ... national currency)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Belgian Franc (BEF)	40.4713	39.6565	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399	40.3399	40.3399	~
Czech Koruna (CZK)	34.169	34.151	34.696	34.457	35.930	36.049	36.884	35.599	34.068	30.804	31.846	31.891
Danish Krone (DKK)	7.59359	7.54328	7.32804	7.35934	7.48361	7.49930	7.43550	7.45380	7.45210	7.43050	7.43070	7.43990
German Mark (DEM)	1.93639	1.92452	1.87375	1.90954	1.96438	1.96913	1.95583	1.95583	1.95583	1.95583	1.95583	~
Estonian Kroon (EEK)	15.4844	15.3930	14.9844	15.2730	15.7130	15.7481	15.6466	15.6466	15.6466	15.6466	15.6466	15.6466
Greek Drachma (GRD)	268.568	288.026	302.989	305.546	309.355	330.731	325.763	336.630	340.750	340.750	340.750	~
Spanish Peseta (ESP)	149.124	158.918	163.000	160.748	165.887	167.184	166.386	166.386	166.386	166.386	166.386	~
French Franc (FRF)	6.63368	6.58261	6.52505	6.49300	6.61260	6.60141	6.55957	6.55957	6.55957	6.55957	6.55957	~
Irish Pound (IEP)	0.799952	0.793618	0.815525	0.793448	0.747516	0.786245	0.787564	0.787564	0.787564	0.787564	0.787564	~
Italian Lira (ITL)	1841.23	1915.06	2130.14	1958.96	1929.30	1943.64	1936.27	1936.27	1936.27	1936.27	1936.27	~
Cyprus Pound (CYP)	0.582941	0.583931	0.591619	0.591904	0.582433	0.579340	0.578840	0.573920	0.575890	0.575300	0.584090	0.581850
Latvian Lats (LVL)	0.7936	0.6641	0.6895	0.6996	0.6594	0.6602	0.6256	0.5592	0.5601	0.5810	0.6407	0.6652
Lithuanian Litas (LTL)	5.08682	4.73191	5.23202	5.07899	4.53615	4.48437	4.26410	3.69520	3.58230	3.45940	3.45270	3.45290
Luxembourg Franc (LUF)	40.4713	39.6565	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399	40.3399	40.3399	~
Hungarian forint (HUF)	107.611	125.030	164.545	193.758	211.654	240.573	252.770	260.040	256.590	242.960	253.620	251.660
Malta lira (MTL)	0.447069	0.448620	0.461431	0.457684	0.437495	0.434983	0.425800	0.404100	0.403000	0.408900	0.426100	0.428000
Dutch Guilder (NLG)	2.17521	2.15827	2.09891	2.13973	2.21081	2.21966	2.20371	2.20371	2.20371	2.20371	2.20371	~
Austrian Schilling (ATS)	13.6238	13.5395	13.1824	13.4345	13.8240	13.8545	13.7603	13.7603	13.7603	13.7603	13.7603	~
New Polish Zloty (PLN)	2.12217	2.70153	3.17049	3.42232	3.71545	3.91647	4.22740	4.00820	3.67210	3.85740	4.39960	4.52680
Portuguese Escudo (PTE)	188.370	196.896	196.105	195.761	198.589	201.695	200.482	200.482	200.482	200.482	200.482	~
Slovenian Tolar (SIT)	132.486	152.766	154.880	171.778	180.986	185.948	194.473	206.613	217.980	225.977	233.849	239.087
Slovak Koruna (SKK)	36.0317	38.1182	38.8649	38.9229	38.1129	39.5407	44.1230	42.6020	43.3000	42.6940	41.4890	40.0220
Finnish Markka (FIM)	6.69628	6.19077	5.70855	5.82817	5.88064	5.98251	5.94573	5.94573	5.94573	5.94573	5.94573	~
Swedish Krona (SEK)	9.12151	9.16307	9.33192	8.51472	8.65117	8.91593	8.80750	8.44520	9.25510	9.16110	9.12420	9.12430
Pound Sterling (GBP)	0.779988	0.775902	0.828789	0.813798	0.692304	0.676434	0.658740	0.609480	0.621870	0.628830	0.691990	0.678660
New Bulgarian Lev (BGN)	0.03231	0.06439	0.08787	0.22515	1.90157	1.96913	1.95580	1.95220	1.94820	1.94920	1.94900	1.95330
Croatian kuna (HRK)	:	:	:	:	:	:	7.58046	7.64316	7.48200	7.41300	7.56880	7.49670
New Romanian leu (RON)	0.088583	0.197156	0.266181	0.392219	0.811150	0.998488	16345.2	19921.8	26004.0	31269.7	37550.6	40509.7
New Turkish lira (TRY)	0.012879	0.035535	0.059912	0.10321	0.17185	0.29374	0.44724	0.57482	1.10242	1.43968	1.69485	1.77705
Iceland Krona (ISK)	79.2528	83.1063	84.6853	84.6558	80.4391	79.6976	77.1800	72.5800	87.4200	86.1800	86.6500	87.1400
Norwegian Krone (NOK)	8.30954	8.37420	8.28575	8.19659	8.01861	8.46587	8.31040	8.11290	8.04840	7.50860	8.00330	8.36970
Swiss Franc (CHF)	1.73019	1.62128	1.54574	1.56790	1.64400	1.62203	1.60030	1.55790	1.51050	1.46700	1.52120	1.54380
Japanese Yen (JPY)	130.147	121.322	123.012	138.084	137.076	146.415	121.320	99.470	108.680	118.060	130.970	134.440
United States Dollar (USD)	1.17100	1.18952	1.30801	1.26975	1.13404	1.12109	1.06580	0.92360	0.89560	0.94560	1.13120	1.24390

Source: Eurostat, Economy and finance, Exchange rates, Bilateral exchange rates

Geographical coverage

This publication covers the European Union, including the 25 Member States (EU-25): Belgium (BE), the Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Greece (EL), Spain (ES), France (FR), Ireland (IE), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). Where data availability permits, information is also included for the Candidate countries, EFTA and EEA countries. EU-25 totals cover the 25 Member States from 1 May 2004 onwards, while EU-15 totals cover the 15 Member States at the end of April 2004. Wherever possible, EU-25 totals have been included and the vast majority of series have been back-calculated so that no break in series occurs. A footnote is added when the analysis refers to a partial total that has been created from an incomplete set of country information (no data for certain Member States, or only data for an older reference period). These partial totals are referred to as the EU average or EU sum of available Member States with a footnote explaining the precise coverage, while all data labelled EU-25 or EU-15 refers to these precise aggregates.

Non-availability

The colon (:) is used in tables to represent data that is not available, either because it is not available in the source used or because it is confidential. In figures (charts), missing information is footnoted as not available.

The tilde (~) is used to represent information that is non-applicable (for example, exchange rates against the euro for those countries that changed currency denomination to the euro in 2004).

OFFICIAL DATA SOURCES

SBS

The main part of the analysis contained within European business is derived from structural business statistics (SBS). These data have been collected within the legal framework provided by the SBS regulation ⁽²⁾. There are three main SBS data sets that have been used in this publication. The first is a set of annual enterprise statistics which covers enterprises of all sizes; these data were generally used for reference year 2002. Not all Member States transmitted data relating to this population, with some providing data for units with employment above a certain size threshold.

⁽²⁾ Council Regulation (EC, EURATOM) No 58/97 of 20 December 1996 concerning structural business statistics and related implementing legislation and amendments (available at: <http://forum.europa.eu.int/irc/dsis/bmethods/info/data/new/legaltexts.html>).

Table 2 presents the main deviations from the standard population as laid down in the SBS regulation (all enterprises, regardless of their size).

Table 2
Deviations from standard SBS survey characteristics - all enterprises

Country	Industry (NACE Sections C - E)	Construction (NACE Section F)	Distributive trades (NACE Section G)	Services (NACE Sections H - K)
The Czech Republic	Sampling errors at 3-digit level are significant (due to low coverage). The 3-digit level is only an estimation based on the sample, but the sample differs between years. The sample is only representative for data at the 2-digit level			
Denmark	No major deviations	1995 to 1998: Class 45.21 includes data for Classes 45.23 and 45.24; Class 45.31 includes data for Class 45.34	No major deviations	
Germany	Pre-1999 for Sections D to F: the population covered is enterprises with 20 or more persons employed; the population covered is enterprises with more than one person employed for 1999 and 2000; from reference year 2001 onwards the data have no major deviations		No major deviations	Pre-2000 for Sections I and K: administrative sources are used up to reference year 1999; data from reference year 2000 onwards have no major deviations
Estonia	1995: Section D data at the 2-digit level cover enterprises with 20 and more employees, except investment data which cover enterprises with 50 and more employees			
Greece	Sections D, E and F: the population covered is enterprises with more than 10 persons employed		No data available	
France	Pre-1999 Division 34: data for reference year 1999 and thereafter are not comparable with those from before 1999	No major deviations		
Ireland	Enterprises with 3 persons employed or more	Enterprises with 20 persons employed or more	No major deviations	
Cyprus	Class 14.11 includes Class 14.12; Class 14.22 includes Group 14.3; Class 15.13 includes Group 15.2; Class 15.71 includes Class 15.72; Class 15.91 includes Classes 15.93 and 15.96; Class 17.21 includes Class 17.54 and Group 17.6; Class 17.71 includes Class 17.72; Group 19.1 includes Group 19.2; Class 20.51 includes Class 20.52; Class 22.22 includes Classes 22.11 and 22.15; Class 24.11 includes Class 24.13 and Group 24.2; Class 24.41 includes 24.42; Class 24.62 includes Class 24.65; Class 26.11 includes Classes 26.13 and 26.15; Class 27.22 includes Classes 27.42 and 27.44; Class 28.21 includes Group 28.3; Class 28.61 includes Class 28.62; Class 28.74 includes Class 28.75; Class 29.53 includes Class 29.54; Group 31.4 includes Class 31.62; Group 32.2 includes Group 32.3; Group 33.1 includes Groups 33.2 and 33.3; Class 36.21 includes Class 36.22; Group 36.3 includes Group 36.5 and Class 36.61; Class 55.21 includes Class 55.22			
Latvia	It is recommended not to use 4-digit data as a random sampling scheme is used with stratification at the 3-digit level			
Hungary	Pre-2002: up to and including 2001, data covers only enterprises with 5 or more persons employed; from 2002 onwards all enterprises are covered			
The Netherlands	Number of enterprises: data for this variable are rounded to multiples of 5; a 0 therefore means 2 or less enterprises Pre-2000: fundamental changes to the processing system in 2000 mean that data for reference year 2000 and onwards should not be compared with data for before 2000			
Slovakia	1995 to 1999: covers enterprises with 20 or more persons employed as well as enterprises with less than 20 persons employed which were considered statistically important			
Bulgaria	Class 15.14 includes Class 15.13			
Romania	Group 27.1 includes Class 27.35 (which is not included in Group 27.3)			

Table 3
Deviations from standard SBS survey characteristics - size class breakdowns

Country	Industry (NACE Sections C - E)	Construction (NACE Section F)	Distributive trades (NACE Section G)	Services (NACE Sections H - K and M - O)
The Czech Republic	Sampling errors at 3-digit level are significant (due to low coverage). The 3-digit level is only an estimation based on the sample, but the sample differs between years; the sample is only representative for data at the 2-digit level			
Germany	1995-1998 for Sections D to F: enterprises with 20 persons or more employed; 1999-2000 for Sections D to F: enterprises with more than one person employed; from 2001 onwards no major deviations		No major deviations	
Estonia	1995: data at the 2-digit level cover enterprises with 20 employees or more, except investment data which cover enterprises with 50 and more employees; 1996-1998: employment size classes are defined in terms of employees; data for size class 500-999 includes data for size class 1000+		1996-1998: size classes 0 and 1-9 employees are provided instead of size classes 1, 2-4 and 5-9 employees; data for size class 0 are published under size class 1 and data for size class 1-9 are published under size class 5-9	1996-1998: size classes 0 and 1-9 employees are provided instead of size classes 1-4 and 5-9 employees; data for size class 0 are published under size class 1-4 and data for size class 1-9 are published under size class 5-9
	No major deviations			
Ireland	Enterprises with 3 persons employed or more	Enterprises with 20 persons employed or more	No major deviations	
Cyprus	2001: data for size class 500-999 includes data for size class 1000+; data for size class 100-249 includes data for size class 250-499; Group 14.2 includes Group 14.3; Group 15.1 includes Group 15.2; Group 17.2 includes Groups 17.5 and 17.6; Group 19.1 includes Group 19.2; Group 24.1 includes Group 24.2; Group 27.2 includes Group 27.4; Group 28.2 includes Group 28.3; Group 31.4 includes Group 31.6; Group 32.2 includes Group 32.3; Group 33.1 includes Groups 33.2 and 33.3; Group 36.3 includes Groups 36.5 and 36.6			
Lithuania	No major deviations		Pre-2000: up to and including 1999, no detailed breakdown is available for small enterprises with less than 10 persons employed; these are classified within size class 5 to 9 persons employed	
Hungary	Pre-2002: up to and including 2001, data covers only enterprises with 5 or more persons employed; from 2002 onwards all enterprises are covered			
Slovenia	1995 to 2001: employment size classes are defined in terms of employees, and exclude enterprises with 0 employees			
Slovakia	1995 to 1999: size classes are defined in terms of employees; data for the total of the size classes refer to enterprises with 20 and more employees			

Table 4
Deviations from standard SBS variable definitions

Country	Year	Variable	Discrepancy
Belgium	1995-1998	Production value	The purchase of goods and services for resale are not removed, resulting in the values being overestimated
Spain	1995-1998	Gross investment in tangible goods	Gross investment in land and gross investment in machinery and equipment
Ireland	1998-2000 1998/1999 All years	Sections H, I and K: personnel costs Number of enterprises Apparent labour productivity, wage adjusted labour productivity, gross operating surplus, gross operating rate	Wages and salaries Break in series due to a change in estimation method. For Group 22.3, Group 24.1, Group 24.4, Division 30 - high values may reflect foreign ownership of enterprises, outsourcing of activities, and accounting practices of multinational enterprises
Hungary	All years	Total investment in tangible goods	Is inconsistent with its components as some investment is not included in the components, only in the total

The second collection of SBS data covers information broken down by employment size class. Again, not all Member States transmitted data to Eurostat that fully conforms with the statistical units or population requested. In particular, some Member States provided data for units with different employment thresholds. Table 3 summarises the main deviations from the standard statistical units and coverage for enterprise data by size class. The third collection of SBS data relates to regional information; this information was used to construct the maps that appear in the overviews of most chapters.

Note that standard definitions of variables within structural business statistics are laid down in Commission Regulation (EC) No 2700/98 of 17 December 1998 concerning the definitions of characteristics for structural business statistics. As such, the data presented are largely comparable across activities and countries. There are nevertheless some known divergences from the standard definitions; Table 4 presents the main discrepancies.

Estimates

EU-25 aggregates include estimates for missing components where necessary. Individual country estimates are not published. In the absence of EU-25 aggregates, averages or sums have been calculated on the basis of information available for the Member States - more details maybe found above under the heading of geographical coverage (see previous page).

Observation unit

The observation unit is generally enterprise. An enterprise carries out one or more activities at one or more locations. Enterprises are classified into sectors (by NACE) according to their main activity. The enterprise should not be confused with the local unit, which is an enterprise or part thereof situated in one geographically identified place. Note that the main exception to the use of the enterprise as the observation unit is with respect to the information published in the maps, which are generally based on local units.

Main definitions

The following standard definitions are taken from Commission Regulation (EC) No 2700/98 of 17 December 1998 concerning the definitions of characteristics for structural business statistics.

Turnover: comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover. It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice. Reduction in prices, rebates and discounts as well as the value of returned packing must be deducted. Income classified as other operating income, financial income and extraordinary income in company accounts is excluded from

turnover. Operating subsidies received from public authorities or the institutions of the European Union are also excluded.

Production value: measures the amount actually produced by the unit, based on sales, including changes in stocks and the resale of goods and services. The production value is defined as turnover, plus or minus the changes in stocks of finished products, work in progress and goods and services purchased for resale, minus the purchases of goods and services for resale, plus capitalised production, plus other operating income (excluding subsidies). Income and expenditure classified as financial or extraordinary in company accounts is excluded from production value. Included in purchases of goods and services for resale are the purchases of services purchased in order to be rendered to third parties in the same condition.

Value-added at factor cost: is the gross income from operating activities after adjusting for operating subsidies and indirect taxes. It can be calculated from turnover, plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products which are linked to turnover but not deductible, minus the duties and taxes linked to production. Alternatively it can be calculated from gross operating surplus by adding personnel costs. Income and expenditure classified as financial or extraordinary in company accounts is excluded from value-added. Value-added at factor costs is calculated 'gross' as value adjustments (such as depreciation) are not subtracted.

Gross operating surplus: is the surplus generated by operating activities after the labour factor input has been recompensed. It can be calculated from the value-added at factor cost less the personnel costs. It is the balance available to the unit which allows it to recompense the providers of own funds and debt, to pay taxes and eventually to finance all or a part of its investment. Income and expenditure classified as financial or extraordinary in company accounts is excluded from gross operating surplus.

Personnel costs: are defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home-workers) in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions. All remuneration paid during the reference period is included, regardless of

whether it is paid on the basis of working time, output or piecework, and whether it is paid regularly or not. Included are all gratuities, workplace and performance bonuses, ex gratia payments, 13th month pay (and similar fixed bonuses), payments made to employees in consideration of dismissal, lodging, transport, cost of living and family allowances, commissions, attendance fees, overtime, night work, etc. as well as taxes, social security contributions and other amounts owed by the employees and retained at source by the employers. Also included are the social security costs for the employer. These include employer's social security contributions to schemes for retirement pensions, sickness, maternity, disability, unemployment, occupational accidents and diseases, family allowances as well as other schemes. These costs are included regardless of whether they are statutory, collectively agreed, contractual or voluntary in nature. Payments for agency workers are not included in personnel costs.

Purchases of goods and services: include the value of all goods and services purchased during the reference period for resale or consumption in the production process, excluding capital goods the consumption of which is registered as consumption of fixed capital. The goods and services concerned may be either resold with or without further transformation, completely used up in the production process or, finally, be stocked. Included in these purchases are the materials that enter directly into the goods produced (raw materials, intermediary products, components), plus non-capitalised small tools and equipment. Also included are the value of ancillary materials (lubricants, water, packaging, maintenance and repair materials, office materials) as well as energy products. Included in this variable are the purchases of materials made for the production of capital goods by the unit. Services paid for during the reference period are also included regardless of whether they are industrial or non-industrial. In this figure are payments for all work carried out by third parties on behalf of the unit including current repairs and maintenance, installation work and technical studies. Amounts paid for the installation of capital goods and the value of capitalised goods are excluded. Also included are payments made for non-industrial services such as legal and accountancy fees, patents and licence fees (where they are not capitalised), insurance premiums, costs of meetings of shareholders and governing bodies, contributions to business and professional associations, postal, telephone, electronic communication, telegraph and fax charges, transport services for goods and personnel, advertising costs, commissions (where they are not included in wages and salaries), bank

charges (excluding interest payments) and all other business services provided by third parties. Included are services which are transformed and capitalised by the unit as capitalised production. Expenditure classified as financial expenditure or extraordinary expenditure in company accounts is excluded from the total purchases of goods and services. Purchases of goods and services are valued at the purchase price excluding deductible VAT and other deductible taxes linked directly to turnover. All other taxes and duties on the products are therefore not deducted from the valuation of the purchases of goods and services.

Gross investment in tangible goods: includes all new and existing tangible capital goods, whether bought from third parties or produced for own use (in other words capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land. The threshold for the useful life of a good that can be capitalised may be increased according to company accounting practices where these practices require a greater expected useful life than the one-year threshold indicated above. All investments are valued prior to (in other words gross of) value adjustments, and before the deduction of income from disposals. Purchased goods are valued at purchase price, in other words transport and installation charges, fees, taxes and other costs of ownership transfer are included. Own produced tangible goods are valued at production cost. Goods acquired through restructuring (such as mergers, take-overs, break-ups, split-off) are excluded. Purchases of small tools which are not capitalised are included under current expenditure. Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of capital goods. Current maintenance costs are excluded as is the value and current expenditure on capital goods used under rental and lease contracts. Investment in intangible and financial assets are excluded. Concerning the recording of investments where the invoicing, delivery, payment and first use of the good may take place in different reference periods, the following method is proposed as an objective:

- i. investments are recorded when the ownership is transferred to the unit that intends to use them;
- ii. capitalised production is recorded when produced;
- iii. concerning the recording of investments made in identifiable stages, each part-investment should be recorded in the reference period in which they are made.

In practice this may not be possible and company accounting conventions may mean that the following approximations to this method need to be used:

- i. investments are recorded in the reference period in which they are delivered;
- ii. investments are recorded in the reference period in which they enter into the production process;
- iii. investments are recorded in the reference period in which they are invoiced;
- iv. investments are recorded in the reference period in which they are paid for.

Number of persons employed: is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (for example sales representatives, delivery personnel, repair and maintenance teams). It includes persons absent for a short period (for example sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period. It also includes part-time workers who are regarded as such under the laws of the country concerned and who are on the payroll, as well as seasonal workers, apprentices and home workers on the payroll. The number of persons employed excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the unit on behalf of other enterprises, as well as those on compulsory military service. Unpaid family workers refer to persons who live with the proprietor of the unit and work regularly for the unit, but do not have a contract of service and do not receive a fixed sum for the work they perform. This is limited to those persons who are not included on the payroll of another unit as their principal occupation.

Number of employees: is defined as those persons who work for an employer and who have a contract of employment and receive compensation in the form of wages, salaries, fees, gratuities, piecework pay or remuneration in kind. The relationship of employer to employee exists when there is an agreement, which may be formal or informal, between an enterprise and a person, normally entered into voluntarily by both parties, whereby the person works for the enterprise in return for remuneration in cash or in kind. A worker is considered to be a wage or salary earner of a particular unit if he or she receives a wage or salary from the unit regardless of where the work is done (in or outside the production unit). A worker from a temporary employment agency is considered to be an employee of the temporary employment agency and not of the

unit (customer) in which they work. In particular the following are considered as employees: paid working proprietors; students who have a formal commitment whereby they contribute to the unit's process of production in return for remuneration and/or education services; employees engaged under a contract specifically designed to encourage the recruitment of unemployed persons; homeworkers if there is an explicit agreement that the homeworker is remunerated on the basis of the work done and they are included on the payroll. The number of employees includes part-time workers, seasonal workers, persons on strike or on short-term leave, but excludes those persons on long-term leave. The number of employees does not include voluntary workers. The number of employees is calculated in the same manner as the number of persons employed, namely as the number of jobs and is measured as an annual average.

Value added specialisation ratio: is defined as the proportion of business economy (or industrial or non-financial services) value added accounted for by a particular activity in a particular country, divided by the same ratio for the EU-25, with the result being expressed as a percentage. Values inferior to 100 % show that a Member State is relatively unspecialised, compared to the EU-25 average, while those over 100 % show that a Member State is relatively specialised for the activity in question. For industrial activities the industrial (NACE Sections C to E) benchmark is used, for construction and for communications, information services and media, the business economy (NACE Sections C to I and K) benchmark is used, and for services the non-financial services (NACE Sections G to I and K) benchmark is used.

Apparent labour productivity: is defined as value added divided by the number of persons employed; the result is usually expressed in terms of thousand of euro per person employed.

Average personnel costs: are defined as personnel costs divided by the number of employees; the result is usually expressed in terms of thousand of euro per employee.

Wage adjusted labour productivity ratio: is defined as the ratio of value added divided by personnel costs (the latter having been divided by the share of employees in the number of persons employed); the result is expressed as a percentage. The ratio can also be calculated by dividing the apparent labour productivity by the average personnel costs and expressing the result as a percentage.

Gross operating rate: is defined as gross operating surplus divided by turnover; the result is expressed as a percentage.

Investment per person employed: is defined as gross investment in tangible goods divided by the number of persons employed; the result is expressed in thousands of euros per person employed.

PRODCOM

The data on industrial products from PRODCOM (List of PRODUcts of the European COMMunity) are provided for EU-25 totals; the first time that such information has been published in European Business. The legal basis of the PRODCOM data is Council Regulation (EEC) No 3924/91 on the establishment of a Community survey of industrial production (the PRODCOM regulation). This regulation requires that production be recorded according to the product headings of the PRODCOM list (or in practice a national list derived from this). The list is based on the Community's external trade classification, the Combined Nomenclature (CN). Each PRODCOM code is identified by an eight-digit code. The first six digits are the CPA code (classification of products by activity). The last two digits normally provide a reference to the Combined Nomenclature (CN), although there are exceptions to this rule.

Different production concepts are used, namely: production sold during the survey period; actual production (total production) during the survey period (which includes any production which is incorporated into the manufacture of other products - such production is normally taken to mean own products which are either processed into another product or fitted into another product in the reporting unit itself, in another plant belonging to it, or under contract in another unit); production during the survey period which is intended for sale. PRODCOM statistics normally cover all enterprises/local units which manufacture products contained in the PRODCOM list. Among the rules on representativeness, the regulation stipulates that all enterprises in Sections C, D and E of NACE employing at least 20 persons must be included. In addition, at least 90 % of production in each (four-digit) class of NACE must also be recorded. The data presented in European business are usually in value terms, although information is also collected on quantities for many headings.

External trade

EU-25 external trade statistics are available in the Comext database, and can be compiled according to various classifications. For the purpose of this publication the classification of products by activity (CPA) has been used; the 2002 version is currently in use. The focus of the external trade data presented in European business is for reference year 2004 (while comparisons were made with the structure of exports and imports for 1999; before this date it may not be possible to construct EU-25 aggregates from existing sources). No estimates are made for external trade statistics, although it is possible that subsequent revisions may occur. The data are processed by summing together product statistics (using a conversion table from CN to CPA - note that the table can change between reference years).

The data for EU-25 are reported in terms of trade flows with the rest of the world, in other words EU-25 trade with non-Community countries. However, for the individual Member States total trade flows are used, in other words, intra- and extra-EU trade combined. All trade figures are given in current price euro terms.

Short-term business statistics

Tracking the business cycle is indispensable for many economic actors. Short-term business statistics provide politicians, government agencies, bankers, business owners, consumers and trade unionists with information that is crucial when making decisions on whether activities and output prices grow, stagnate or decline. The legal base of the European system of quantitative short-term business statistics is Council Regulation (EC) No 1165/98, which was adopted on 19 May 1998, and Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 1165/98 concerning short-term statistics.

Several variables from the short-term business statistics database are presented in this publication. To measure output the following indices are used: the industrial production index, the index of production for construction, the volume of sales for retail trade, the services' turnover index. In industry, the domestic output price index is presented, while a construction costs index is available for construction; note that there are currently no price indices for services. An employment index is also available for most activities within industry, construction and services. Eurostat estimate EU-25 aggregates and have also back-calculated these so that they are available in some activities for a lengthy time-series; data in this edition of European business are generally presented from 1993 to 2004 (subject to availability).

Main definitions

Index of production for industrial activities: is defined to show the evolution of value added at factor cost, at constant prices. Value added at factor cost can be calculated from turnover (excluding VAT), plus capitalised production, plus other operating income, plus or minus the changes in stocks, minus the purchases of goods and services, minus other taxes on products and taxes linked to production. This index of production should take account of: variations in type and quality of the commodities and of the input materials; changes in stocks of finished goods and work in progress; changes in technical input-output relations (processing techniques); and services such as the assembling of production units, mounting, installations, repairs, planning, engineering, creation of software.

Index of production for construction: the objectives and characteristics of production indices for industrial activities also apply to the indices for building construction and civil engineering. The division of production between building construction and civil engineering is based on the classification of types of construction (CC). These indices aim to show the evolution of value added for each of the two main sections in construction, namely buildings and civil engineering works. The indices are calculated by assigning the basic information (for example deflated output, hours worked, authorisations/permits) to products in the CC and then aggregating the product indices in accordance with the CC.

Volume of sales index for retail trade: represents the value of turnover in constant prices and as such is a volume index. It is generally calculated as turnover at current prices, deflated by the deflator of sales.

Turnover index services (other than retail trade): the objective of this index is to show the evolution of the market for goods and services. Turnover comprises the totals invoiced by the observation unit during the reference period. This corresponds to market sales of goods or services supplied to third parties. It includes all duties and taxes on the goods or services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover.

Domestic output price index: all price-determining characteristics of the products should be taken into account when compiling these indices, including the quantity of units sold, transport provided, rebates, service conditions, guarantee conditions and destination. The specification must be such that

in subsequent reference periods, the observation unit is able to identify the product and to provide the appropriate price per unit. The appropriate price is the ex-factory price that includes all duties and taxes on the goods and services invoiced by the unit but excludes VAT invoiced by the unit vis-à-vis its customer and similar deductible taxes directly linked to turnover.

Construction costs index: the objective of this index is to show the evolution of costs incurred by the contractor to carry out the construction process. The component costs index (material costs and labour costs) shows the price developments of production factors used in the construction industry. Costs that constitute components of the construction costs are also plant and equipment, transport, energy and other costs. Architect's fees are not part of the construction costs.

Index of employment: is based on the total number of persons working in an observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), which also includes persons who work outside the unit who belong to it and are paid by it (for example, sales representatives, delivery personnel, repair and maintenance teams). It includes persons absent for a short period (for example sick leave, paid leave or special leave), and also those on strike, but not those absent for an indefinite period. It also includes part-time workers who are regarded as such under the laws of the country concerned and who are on the payroll, as well as seasonal workers, apprentices and home workers on the payroll. The number of persons employed excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the unit on behalf of other enterprises, as well as those on compulsory military service.

Labour Force Survey

The legal basis for the collection of data is Council Regulation (EC) No 577/98 of 9 March 1998 on the organisation of a labour force sample survey in the Community, which was subsequently amended by Regulation (EC) No 1991/2002 of the European Parliament and of the Council of 8 October 2002. Regulation 1991/2002 of the European Parliament and of the Council introduced a deadline for the period of transition given to the Member States to introduce a continuous quarterly survey. The methodological basis and the contents of this survey are described in the publication Labour Force Survey - Methods and definitions, 2001 edition.

Table 5
Reliability limits for publishing LFS data
(number of observations)

	A	B
EU-25 (1)	60 150	111 700
Belgium	2 500	4 500
The Czech Republic	700	700
Denmark	2 000	3 500
Germany	5 000	8 000
Estonia	1 250	2 500
Greece	2 500	4 500
Spain	2 000	4 000
France	3 500	8 500
Ireland	2 500	4 500
Italy	1 500	2 500
Cyprus	500	1 500
Latvia	1 200	2 000
Lithuania	4 000	7 500
Luxembourg	500	1 500
Hungary	2 000	3 500
Malta	1 500	3 000
The Netherlands	1 500	4 500
Austria	3 000	6 000
Poland	5 000	15 000
Portugal	4 500	4 500
Slovenia	500	4 000
Slovakia	2 000	3 000
Finland	2 500	4 500
Sweden	2 000	2 000
The United Kingdom	6 000	6 000

A: threshold for publishing data.

B: threshold for reliable data.

Source: Eurostat, Labour market, Total employment - LFS series

The main statistical objective of the Labour Force Survey is to divide the population of working age (generally 15 years and above) into three mutually exclusive and exhaustive groups: persons in employment, unemployed persons, and inactive persons, and to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups on the basis of the most objective information possible, obtained through a survey questionnaire, which relates principally to their actual activity within the reference period. It is important to note that the information is not collected from enterprises (as with most of the business statistics presented in this publication), but instead through a survey addressed to individual households.

The national statistical institutes are responsible for selecting the sample, preparing the questionnaires, conducting the interviews and forwarding the results to Eurostat in accordance with a common coding scheme.

Eurostat devises the programme for analysing the results and is responsible for processing and disseminating the information. EU-25 results in this publication are provided on the basis of spring results (quarter 2) for all countries, except France and Austria (quarter 1). In 2004, all countries conducted a quarterly continuous survey except Germany (starting in 2005). The results are subject to the usual types of errors associated with sampling techniques. Eurostat implements basic guidelines intended to avoid the publication of figures which are statistically unreliable (see Table 5); and figures below these thresholds are not published. A second threshold is applied to data that may only be published with a warning concerning its reliability; for the purpose of this edition of European business these data have also been omitted.

Main definitions

Employed persons: are persons aged 15 years and over (16 and over in Spain, the United Kingdom and Sweden (for the period 1995 to 2001); 15 to 74 years old in Denmark, Estonia, Hungary, Latvia, Finland and Sweden (from 2001 onwards); 16 to 74 years old in Iceland and Norway) who during the reference week performed work, even for just one hour a week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, for example, illness, holidays, industrial dispute and education and training.

Gender breakdown: information shown on those in employment is broken down according to the proportion of the workforce that are male or female.

Full-time/part-time: this variable refers to the main job. The distinction between full-time and part-time work is based on a spontaneous response by the respondent (except in the Netherlands, Iceland and Norway where part-time work is determined to be the case if the usual hours are fewer than 35 hours and full-time if the usual hours are 35 hours or more, and in Sweden where this criterion is applied to the self-employed). It is impossible to establish a more precise distinction between full-time and part-time employment, since working hours differ from one Member State to the next and from one activity to the next.

Age: the age of the respondent is calculated from the year of birth. For persons born in the same year, those whose birthdays fall between 1 January and the end of the reference week are, for the purposes of survey results analysis, regarded as being one year older than those whose birthdays fall after the end of the reference week. The presentation of data is

made according to a breakdown of the proportion of those in employment according to three age groups, defined as follows: those aged less than 25 years; those aged 25 to 49 years old; and those aged 50 or more.

National accounts

The European system of national and regional accounts (1995 ESA, or simply ESA) is an internationally compatible accounting framework for a systematic and detailed description of a total economy (that is a region, country or group of countries), its components and its relations with other economies. The 1995 ESA replaces the European system of integrated economic accounts published in 1970 (1970 ESA; a second, slightly modified, edition appeared in 1978). The 1995 ESA is fully consistent with the revised world-wide guidelines on national accounting, the system of national accounts (1993 SNA, or simply SNA; these guidelines have been produced under the joint responsibility of the United Nations, the IMF, the Commission of the European Communities, the OECD and the World Bank). However, the ESA is focused more on the circumstances and data needs of the European Union. Like the SNA, the ESA is harmonised with the concepts and classifications used in many other, social and economic statistics. Cases in point are statistics on employment, statistics on manufacturing and statistics on external trade. The ESA can therefore serve as the central framework of reference for the social and economic statistics of the European Union and its Member States.

The ESA framework consists of two main sets of tables:

- i. the sector accounts, and;
- ii. the input-output framework and the accounts by industry.

The sector accounts provide, by institutional sector, a systematic description of the different stages of the economic process: production, generation of income, distribution of income, redistribution of income, use of income and financial and non-financial accumulation. The sector accounts also include balance sheets to describe the stocks of assets, liabilities and net worth at the beginning and the end of the accounting period.

The input-output framework and the accounts by industry describe in more detail the production process (cost structure, income generated and employment) and the flows of goods and services (output, imports, exports, final consumption, intermediate consumption and capital formation by product group).

ABBREVIATIONS

EU-25	European Union of 25 Member States	AAGR	Average annual growth rate
EU-15	European Union of 15 Member States	ACEA	Association of European Automobile Manufacturers
BE	Belgium	ACEM	European Motorcycle Manufacturers Association
CZ	The Czech Republic	AEA	Association of European Airlines
DK	Denmark	AISE	International Association for Soaps, Detergents and Maintenance Products
DE	Germany	APEAL	Association of European Producers of Steel for Packaging
EE	Estonia	APME	Association of Plastics Manufacturers
EL	Greece	ATC	Agreement on Textiles and Clothing
ES	Spain	ATM	Automatic teller machine
FR	France		
IE	Ireland	BSE	Bovine spongiform encephalopathy
IT	Italy		
CY	Cyprus	CAP	Common Agricultural Policy
LV	Latvia	CAEF	Committee of European Foundry Associations
LT	Lithuania	CD	Compact disc
LU	Luxembourg	CEPIC	European Chemical Industry Council
HU	Hungary	CEPE	European Council of the Paint, Printing Inks and Artists' Colours Industry
MT	Malta	CEPI	Confederation of European Paper Industries
NL	The Netherlands	CESA	Committee of European Shipbuilders Association
AT	Austria	CFP	Common Fisheries Policy
PL	Poland	CIP	Competitiveness and Innovation framework Programme
PT	Portugal	COICOP	Classification of Individual Consumption According to Purpose
SI	Slovenia	COLIBI	European Bicycle Manufacturers Liaison Committee
SK	Slovakia	COLIPA	European Trade Association representing the interests of the Cosmetic, Toiletry and Perfumery Industry
FI	Finland		
SE	Sweden	CPA	Classification of products by activity
UK	The United Kingdom		
		DTP	Desktop publishing
BG	Bulgaria	DVD	Digital video disc / Digital versatile disc
HR	Croatia	DWT	Dead weight tonnes
RO	Romania		
TR	Turkey	EAO	European Audiovisual Observatory
		EAP	Environment Action Programme
IS	Iceland	ECB	European Central Bank
NO	Norway	ECSC	European Coal and Steel Community
		EFBW	European Federation for Bottled Waters
CH	Switzerland	EFPIA	European Federation of Pharmaceutical Industries
		EFSA	European Food Safety Authority
CIS	Commonwealth of Independent States	EITO	European Information Technology Observatory
CN	China	EMC	Electromagnetic compatibility
JP	Japan	ERA	European Regions Airline Associations
RU	Russia	ETOA	European Tour Operators Associations
US	United States	EU	European Union
		FEA	European Aerosol Federation
		FDI	Foreign direct investment
		FESE	Federation of European Securities Exchanges
		FIEC	European Construction Industry Federation
		FEDIOL	EC Seed Crushers' and Oil Processors' Federation
		FSAP	Financial Services Action Plan
		GATS	General Agreement on Tariffs in Services
		GATT	General Agreement on Tariffs and Trade
		GDP	Gross domestic product
		GM	Genetically-modified
		GMO	Genetically-modified organisms
		GRT	Gross registered tonnage
		GSM	Global system for mobile communication
		HICP	Harmonised index of consumer prices
		HRST	Human resources in science and technology

Guide to the publication

ICT	Information and communication technologies	SARS	Severe acute respiratory syndrome
IFPI	International Federation of the Phonographic Industries	S&T	Science and technology
IISI	International Iron and Steel Institute	SBS	Structural business statistics
IT	Information technology	SGEI	Services of general economic interest
LAN	Local area network	SME	Small and medium-sized enterprise (employing from 1 to 249 persons)
LCD	Liquid crystal display	STS	Short-term business statistics
LFS	Labour Force Survey	TDM	Temporary defensive mechanism
LIFFE	London International Financial Futures Exchange	TEN-T	Trans-European transport network
LPG	Liquefied petroleum gas	TOE	Tonnes of oil equivalent
MFA	Multifibre Arrangement	TSE	Transmissible spongiform encephalopathy
MIGs	Main Industrial Groupings	Twh	Terrawatt-hours
NACE	Statistical classification of economic activities in the European Community	UCITS	Undertakings for collective investment in transferable securities
NAFTA	North American Free Trade Agreement	UN	United Nations
n.e.c.	Not elsewhere classified	UNAFPA	Union of Organisations of Manufacturers of Pasta Products in the European Community
OEITFL	Association of European Fruit and Vegetable Processing Industries	UPU	Universal Post Union
OPT	Outward processing trade	USD	United States dollar
OPEC	Organisation of Petroleum Exporting Countries	VAT	Value added tax
PAO	Period after opening	VDA	German motor vehicle manufacturers association
PC	Personal computer	VHS	Video home system
PBX	Private branch exchange	VoIP	Voice over Internet protocol
PWS	Public water supply	WTO	World Trade Organisation
REACH	Registration, Evaluation and Authorisation of CHemicals		
RTD	(framework programme for) Research, Technological development and Demonstration		
R&D	Research and development		

The EU's business economy

1.1: POLICY BACKGROUND

Heads of State and Government met in Lisbon in 2000 and launched a series of ambitious reforms at a national and European level that were aimed at making the EU 'the most dynamic and competitive knowledge-based economy in the world' by 2010. With half of the period gone, the President of the European Commission acknowledged in his address to the plenary session of the European Parliament on 9 March 2005 that the results were 'not very satisfactory'.

Subdued economic growth within the EU-25 from 2000 onwards led to the Commission re-launching the Lisbon objectives. One pillar of action was in relation to socio-economic objectives. The Commission believes that it needs to encourage increased labour supply, modernise social protection systems, improve the adaptability of the workforce, and increase investment in human capital if Europe is to achieve full employment, improve productivity and strengthen social cohesion. To facilitate these goals, the Commission sponsored work in relation to human capital, education, vocational training, integrating young people into society, developing active ageing strategies, and increasing healthy life years, in an attempt to increase employment rates. The Commission also proposed a pan-European system for the recognition of qualifications and skills, in an attempt to make economic migration within the EU easier, thereby encouraging occupational and geographic mobility.

The development of social and employment policy is however only one side of the approach adopted to re-launch the Lisbon objectives, with considerable efforts also being made regarding enterprise and innovation policy. One particular area of focus is making Europe a more attractive place to invest and work in, which the Commission hopes to achieve by: simplifying the regulatory framework in which business operates (for example, by adopting a common corporate tax regime); completing the internal market for services; developing services of general economic interest (SGEI) to enhance social cohesion; and completing the Doha round of world trade negotiations.

Knowledge is seen as a key factor if Europe is to maintain its competitive advantage. The Seventh Framework Programme for Research, Technological development and Demonstration (RTD) activities and the Competitiveness and Innovation framework Programme (CIP) have been designed to meet the challenges faced by European business. The former addresses the fragmentation of European research efforts, the free movement of knowledge and researchers, Europe's relative weakness in exploiting research results, and the promotion of R&D driven regional clusters. The CIP provides access to finance for innovation to small and medium-sized enterprises (SMEs) in their start-up and growth phases by sharing risks and reward with private equity investors. It aims to simplify the regulatory environment for enterprises and provide more information to SMEs regarding the single market. More specifically it aims to encourage convergence between network services, media content and new electronic devices, reinforce European cultural and linguistic identity, and encourage a European information society that promotes inclusion, quality of life and public services. The final focus of the CIP is in relation to energy, especially the uptake and diversification of new and renewable energies, and increasing energy efficiency.

1.2: INFORMATION SOCIETY AND INTANGIBLES

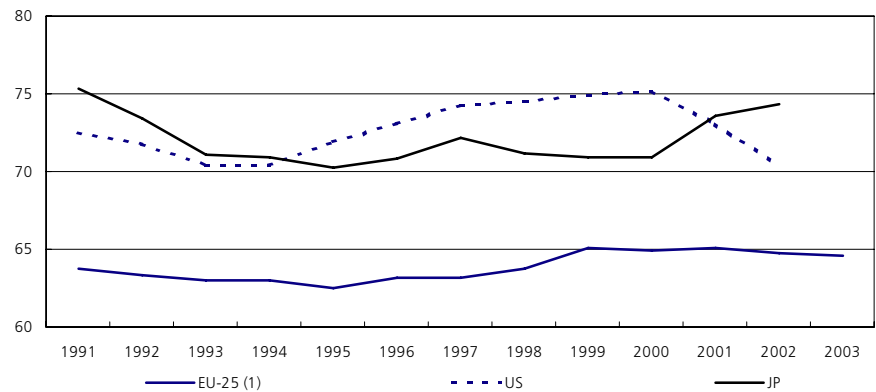
The information society affects most aspects of life, crossing the boundaries between work and leisure. As business and individuals exploit its benefits, they generate demand, which in turn stimulates further growth. The guiding principles for Community policy in this area are to stimulate demand, through initiatives like the adoption of GSM as a harmonised standard, or the liberalisation of telecommunications markets.

Changes in the business paradigm in recent years have led to some European manufacturers making cost-motivated investments in production facilities, for example, in Central and Eastern Europe, China or India. Such moves may be driven by the benefits associated with relatively low unit labour costs, or alternatively by entry into untapped markets where potentially rapid sales growth exists. As a result, there has, to some degree, been an international re-location of labour and specialisation, with EU production often shifting to knowledge-intensive, innovative activities - see section 1.4 for more details on structural changes to the EU's business economy.

RESEARCH AND DEVELOPMENT

As part of the Lisbon objectives for 2010, the EU-25 is trying to raise research and development (R&D) expenditure within the EU, such that it accounts for at least 3 % of gross domestic product (GDP). Having fallen from 1.93 % of GDP in 1991 to 1.82 % of GDP by 1998, relative R&D expenditure increased during five consecutive years to reach 1.95 % in 2003 (see Table 1.1). If this rate of increase continued through to 2010, then R&D expenditure would remain well below the 3 % target.

Figure 1.1 Business enterprise research and development as a proportion of total R&D expenditure (%)



(1) EU-15, 1991-1994.

Source: Eurostat, Statistics on Research and Development (R&D expenditure)

Business enterprise expenditure on R&D is relatively low in the EU-25, some 1.25 % of GDP in 2002, compared with 2.32 % in Japan and 1.86 % in the United States. Figure 1.1 shows the ratio of business enterprise R&D relative to total R&D expenditure. There is a clear structural difference in the composition between the EU-25 on the one hand (where the business enterprise sector contributed between 62.5 % and 65.1 % of total R&D expenditure between 1991 and 2003) and Japan and the United States on the other hand where the business enterprise sector contributed between 70 % and 75 % of total R&D expenditure.

The effects of the business cycle are apparent in Figure 1.1, with a downturn in the relative importance of business expenditure on R&D in the early 1990s, followed by a recovery through to 2000. Note that despite the increase in the ratio of business enterprise R&D expenditure to total R&D expenditure in Japan from 2001 onwards, levels of R&D expenditure fell for both the business enterprise sector and total R&D expenditure. Business enterprise R&D expenditure fell in both relative and absolute terms in the United States in 2001 and 2002, while in the EU-25 it increased, although the rate of increase was matched by the overall growth in total R&D expenditure.

HUMAN RESOURCES IN SCIENCE AND TECHNOLOGY (HRST)

Education and training initiatives are also central to the Lisbon objectives of creating a dynamic and competitive, knowledge-based economy. Human resources are often viewed as one of the EU-25's main assets, and it is widely acknowledged that investment in this area is a determining factor for growth and productivity, in the same way as investment in plant and machinery. The EU-25 is trying to increase its proportion of higher education graduates, with the belief that if it is to be competitive in the knowledge-driven economy, it will need a higher number of graduates with qualifications that are suitably adapted to European labour market requirements.

Table 1.2 shows that EU-25 human resources in science and technology (HRST) totalled 73.1 million persons in 2003 (note that there is some overlap as regards the breakdown of this total figure between persons with a science or technology education and persons working in a science or technology occupation). Figure 1.2 (overleaf) shows that there was an overall increase of 7.3 % in HRST in the EU-25 between 2000 and 2003. Double-digit increases in HRST were recorded in seven of the Member States, while Latvia, Lithuania and Finland were the only Member States to report a reduction in HRST over the period considered.

As part of their efforts to increase HRST, policy makers have often concentrated on the gender imbalance observed for science and technology graduates, by trying to encourage more women into related subject areas.

In 2002 all four of the largest Member States ⁽¹⁾ in the EU-25 reported that science and technology graduates accounted for a higher proportion of total graduates than in the United States (see Figure 1.3 overleaf). Furthermore, the overall number of graduates from science and technology related disciplines was 1.8 times higher in the EU ⁽²⁾ in 2002 than it was in the United States. These figures draw attention to the problem of retention, as despite a relatively high level of supply, the EU witnessed a relatively large proportion of graduates leaving the S&T domain (for an alternative occupation) or moving to another country (the so-called 'brain drain') in order to use their skills. One of the many possible explanations of this 'brain drain' could be a lack of job mobility within the EU. Job-to-job mobility rates of highly qualified personnel employed in science and technology are depicted in Figure 1.4 (overleaf). The highest mobility rates were recorded in Denmark, Finland and the United Kingdom, where approximately 10 % of HRST changed from one HRST post to another in 2003. Some 14 of the remaining 19 Member States for which data are available reported mobility rates of less than 6 %.

⁽¹⁾ France and Italy, 2001.

⁽²⁾ Denmark, France, Italy, Cyprus, Malta and Finland, 2001; Luxembourg, 2000; Greece, not available.

Table 1.1 Research and development expenditure relative to GDP, 2003 (% of GDP)

	Business enterprise sector	Government sector	Higher education sector	Private non-profit sector	All sectors
EU-25	1.26	0.25	0.42	:	1.95
BE	1.73	0.15	0.43	0.03	2.33
CZ	0.82	0.31	0.21	0.01	1.35
DK	1.80	0.18	0.60	0.02	2.60
DE	1.73	0.34	0.43	:	2.50
EE	0.22	0.13	0.39	0.03	0.77
EL	0.20	0.13	0.28	0.00	0.62
ES	0.60	0.17	0.34	0.00	1.11
FR	1.36	0.37	0.42	0.03	2.19
IE	0.72	0.09	0.31	:	1.12
IT	0.55	0.21	:	0.02	:
CY	0.06	0.14	0.10	0.03	0.33
LV	0.14	0.09	0.17	0.00	0.39
LT	0.14	0.18	0.36	:	0.68
LU (1)	:	0.18	0.01	:	:
HU	0.36	0.30	0.26	:	0.97
MT (2)	0.08	0.05	0.17	:	0.28
NL (3)	1.10	0.28	0.51	0.01	1.89
AT	:	:	:	:	2.22
PL	0.16	0.24	0.19	0.00	0.59
PT	0.26	0.13	0.32	0.08	0.79
SI	0.91	0.35	0.24	0.03	1.53
SK	0.31	0.18	0.07	0.00	0.57
FI	2.48	0.34	0.68	0.02	3.51
SE (3)	3.32	0.12	0.83	0.00	4.27
UK (4)	1.26	0.17	0.42	0.03	1.87
BG	0.10	0.35	0.05	0.00	0.50
HR (4)	0.48	0.25	0.39	0.00	1.12
RO	0.24	0.13	0.04	0.00	0.40
TR (4)	0.19	0.05	0.43	:	0.66
IS (4)	1.77	0.76	0.50	0.07	3.09
NO	1.10	0.29	0.50	0.00	1.89
CH (4)	:	0.03	0.65	:	:
CN (4)	0.75	0.35	0.12	:	1.23
JP (5)	2.32	0.30	0.43	0.07	3.12
RU (4)	0.87	0.30	0.07	0.00	1.24
US	1.90	0.25	0.46	0.15	2.76

(1) Government sector, 2002; higher education sector, 2001.

(2) Government sector and total, 2002.

(3) 2001.

(4) 2002.

(5) 2002, except private non-profit sector; private non-profit sector, 2001.

Source: Eurostat, Statistics on Research and Development (R&D expenditure)

Table 1.2 Breakdown of human resources in science and technology, EU-25, 2003 (thousands of persons)

	Human resources in science and technology	Core (1)	Education (2)	Occupation (3)	Scientists and engineers (4)
Manufacturing (NACE Section D)	8 644	2 828	5 299	6 173	1 552
Services (NACE Sections G to Q)	48 688	22 996	32 439	39 246	5 822
Total (NACE Sections A to Q)	73 098	28 571	50 800	50 869	8 504

(1) Those people who have successfully completed education at degree level in the field of science and technology and are employed in a science and technology occupation.

(2) Those people who have successfully completed education at degree level in the field of science and technology.

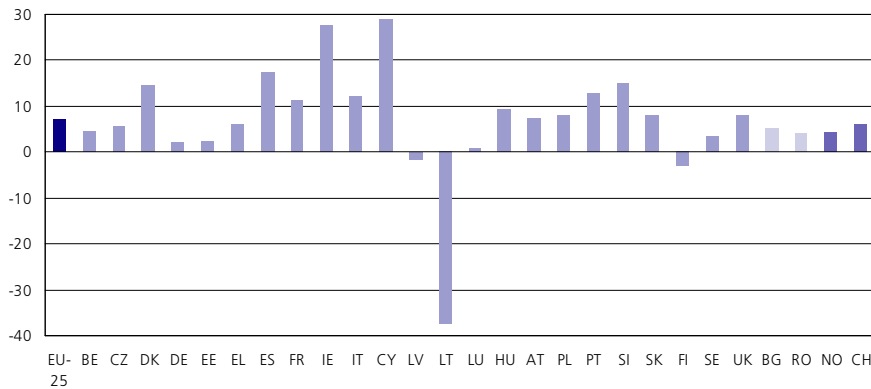
(3) Those people who are employed in a science and technology occupation.

(4) Those persons working in physical, mathematical and engineering occupations; life science and health occupations.

Source: Eurostat, Human Resources in Science & Technology (Stocks of HRST at the national and regional levels; unemployment for HRST and non-HRST)

Figure 1.2

Absolute change in human resources in science and technology, 2000-2003 (%) (1)

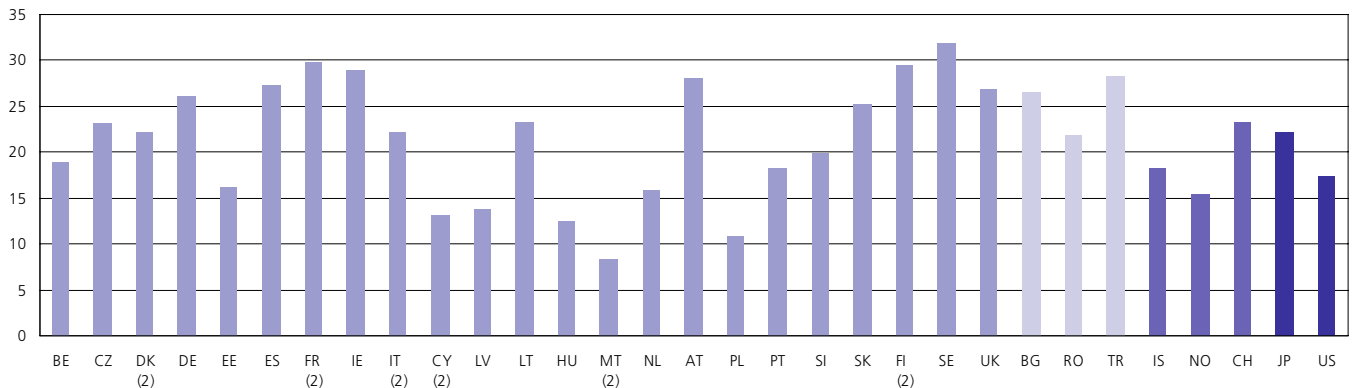


(1) Malta and the Netherlands, not available.

Source: Eurostat, Human Resources in Science & Technology (Stocks of HRST at the national and regional levels; unemployment for HRST and non-HRST)

Figure 1.3

Science, mathematics and computing, engineering, manufacturing and construction graduates as a proportion of all graduates, 2002 (%) (1)



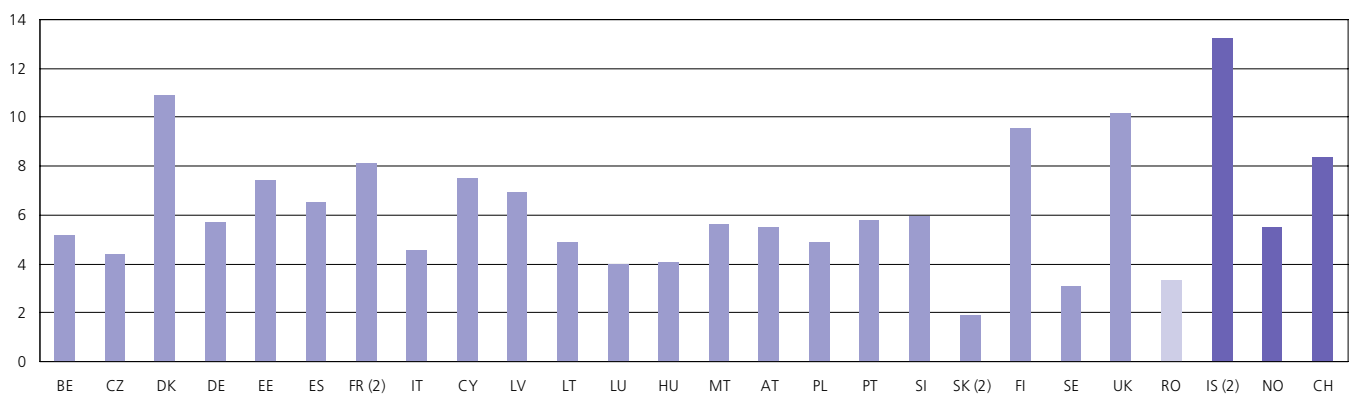
(1) Levels 5 and 6 (ISCED 1997) of tertiary education; Greece and Luxembourg, not available.

(2) 2001.

Source: Eurostat, Human Resources in Science & Technology (Flows of HRST at the national level: Education inflows and job-to-job mobility)

Figure 1.4

Job-to-job mobility of highly qualified personnel (employed human resources in science and technology) aged 25-64, 2003 (%) (1)



(1) Greece, Ireland and the Netherlands, not available.

(2) 2002.

Source: Eurostat, Human Resources in Science & Technology (Flows of HRST at the national level: Education inflows and job-to-job mobility)

E-BUSINESS AND ICT USE IN ENTERPRISES

The information and communications technologies (ICT) revolution goes well beyond e-commerce (buying and selling on-line) as it also encompasses the integration of ICT into business processes. Table 1.3 shows that some 93 % of enterprises in the EU-25 used computers in 2004, while 89 % had access to the Internet. The proportion of enterprises that used a computer ranged from 84 % in Portugal to 99 % in Denmark, Finland and Sweden⁽³⁾, while the proportion of enterprises with access to the Internet ranged from 71 % in Slovakia to 97 % in Denmark and Finland⁽⁴⁾. Table 1.3 also shows that 13 % of enterprises in the EU-25 received orders on-line in 2004, while 27 % purchased goods or services on-line. Security and technical issues may explain the fairly wide divide between these figures and those relating to payments, where just 3 % of enterprises in the EU-25 received on-line payments for Internet sales.

⁽³⁾ France (85 % in 2003) and Malta, not available.

⁽⁴⁾ France (83 % in 2003) and Malta, not available.

Table 1.3 Use of information technology and e-commerce within enterprises, 2004
(% of all enterprises) (1)

	Proportion of enterprises which use a computer	Proportion of enterprises having access to the Internet	Having received orders on-line	Having purchased on-line	Having received on-line payments for Internet sales	Turnover from e-commerce (% of total turnover)
EU-25	93	89	13	27	3	8
BE	97	96	18	41	2	7
CZ	94	90	11	19	2	6
DK	99	97	25	28	6	12
DE	97	94	18	47	3	11
EE	97	90	8	32	4	3
EL	92	87	6	14	2	2
ES	91	87	2	3	1	3
FR (2)	85	83	:	:	:	:
IE	96	92	19	33	8	17
IT	91	87	3	4	1	3
CY	88	82	5	14	2	:
LV	85	74	1	1	0	0
LT	89	81	5	13	2	2
LU	92	90	11	34	2	:
HU	85	78	6	14	1	:
MT	:	:	:	:	:	:
NL	94	88	17	22	3	:
AT	98	94	12	22	2	7
PL	93	85	4	9	1	3
PT	84	77	6	8	1	5
SI	98	93	15	17	4	:
SK	92	71	6	3	1	4
FI	99	97	17	19	3	13
SE	99	96	20	38	4	11
UK	94	87	27	50	5	14
BG	74	62	3	4	0	4
RO	61	52	:	:	0	:
IS (2)	98	97	12	15	4	6
NO	88	86	13	27	6	8

(1) NACE Sections D, F to I, K and O, for all enterprises with 10 or more persons employed.

(2) 2003 for use of computers and access to the Internet.

Source: Eurostat, Information society statistics (Enterprises access to and use of ICTs)

1.3: STRUCTURE OF THE ECONOMY – A NATIONAL ACCOUNTS OVERVIEW

The main measure of economic performance is GDP, the central aggregate of national accounts. GDP is the final result of the production activity of resident producers and can be defined (using the output approach) as the sum of gross value added of the various institutional sectors or industries.

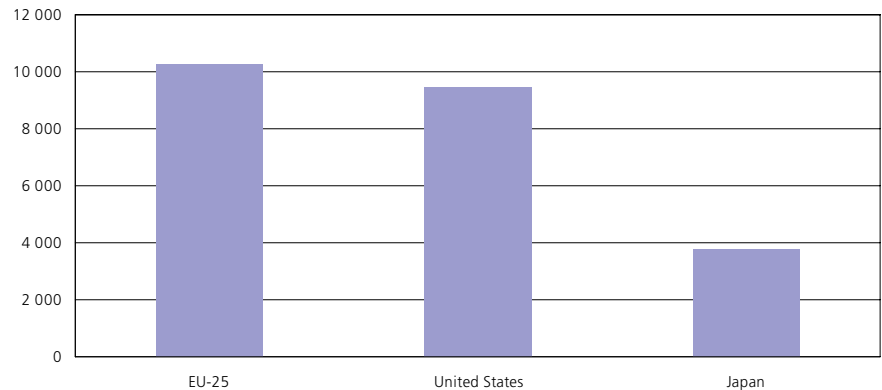
Figure 1.5 shows the level of GDP in 2004 in the three Triad economies, namely the EU-25, the United States and Japan, when GDP in euro terms was approximately 10 % lower in the United States than in the EU-25, and GDP was considerably lower in Japan (equivalent to 36.6 % of the EU-25 total).

The largest share of the EU-25's GDP was accounted for by Germany, which generated more than one fifth of the total. Adding the United Kingdom, France, Italy and Spain, the share of the five largest contributors to EU-25 GDP rose to just over 75 %. With the exception of Poland (1.9 % of the total) all of the Member States that joined the EU in 2004 accounted for less than 1 % of the EU-25's GDP (while Luxembourg was the only one of the EU-15 Member States to do so).

GDP PER CAPITA

The level of GDP, per se, says little about the economic performance of a country. One of the most commonly used indicators for this purpose is GDP per capita, obtained by dividing total GDP for a national territory by its population. National accounts data for population are usually defined using the concept of residence (all persons, national or foreign, who are permanently settled in the economic territory, even if they are temporarily absent) which may differ from that used for demographic statistics.

Figure 1.5
GDP at market prices, 2004 (EUR billion)

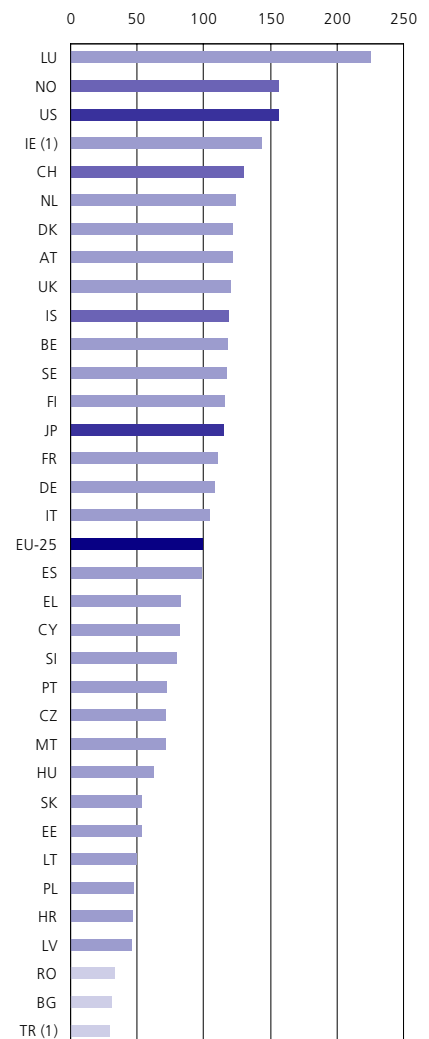


Source: Eurostat, National accounts (GDP and main components - current prices)

While a comparison of GDP over time is best carried out using constant price data, a more appropriate measure for a comparison of GDP per capita in different countries, may be one expressed in current prices using purchasing power parities instead of market exchange rates. A purchasing power parity is a currency conversion rate that allows indicators expressed in national currency terms to be converted to an artificial common currency while at the same time adjusting for differences in price levels between countries. In the data presented here the artificial common currency is called the purchasing power standard (PPS).

Luxembourg stood out as having by far the highest GDP per capita in PPS in 2004, at more than double the EU-25 average (see Figure 1.6), while the next Member State in the ranking was Ireland, where GDP per capita was slightly more than 40 % above the EU-25 average. None of the remaining Member States reported GDP per capita more than 25 % above the EU-25 average. At the other end of the range, all of the Member States that joined the EU in 2004 reported that their GDP per capita was below the EU-25 average, as were the latest figures for Spain, Greece and Portugal. Information for the Candidate countries shows that GDP per capita was below 50 % of the EU-25 average in 2004.

Figure 1.6
GDP per inhabitant based on PPS, 2004 (EU-25=100) (1)



(1) Forecasts.

Source: Eurostat, National accounts (GDP and main components - current prices)

SIX BROAD BRANCHES OF ECONOMIC ACTIVITY

The EU-25 generated EUR 9 484 billion of value added in 2004. The breakdown of value added across six broad branches of economic activity (as defined by the statistical classification of the economic activities in the European Union, NACE) is presented in Figure 1.7. The combined sum of the three services' branches (NACE Sections G to P) was equal to 71.4 % of total value added, with the majority of the remaining added value (20.7 %) being generated within industry (NACE Sections C to E). As such, agriculture, hunting, forestry, and fishing (NACE Sections A and B) and construction (NACE Section F) together accounted for 7.9 % of the wealth created in the EU-25 in 2004.

Table 1.4 presents an analysis of value added within each Member State in 2004. The data can be used to study which Member States are relatively specialised in a particular branch of the economy (in relation to the EU-25 average). The proportion of value added accounted for by services including public administration (as defined by NACE Sections G to P) ranged from 56.2 % in Ireland (2003) to 83.4 % in Luxembourg.

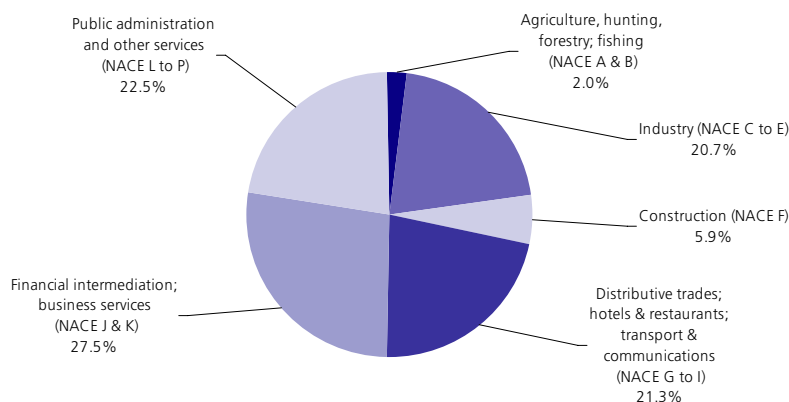
Financial intermediation and business services was the largest of the six branches in the EU-25 with a 27.5 % share of value added in 2004. France and the United Kingdom were particularly specialised in this branch, as together with Luxembourg (where financial services play a very important role), they were the only Member States to report that financial intermediation and business services generated at least 30 % of value added.

Distributive trades, hotels and restaurants, transport and communications accounted for 21.3 % of total value added in the EU-25 in 2004. The relative weight of this branch was considerably higher in the tourism-rich economies of Greece, Spain, Cyprus and Malta, as well as a number of the Member States that joined the EU in 2004, where the specialisation was often within distributive trades.

Industry accounted for 20.7 % of value added in the EU-25 in 2004, while its share rose to above 25 % in Germany and in seven of the Member States that joined the EU in 2004 and was at its highest in Ireland (2003) at 33.0 %. In contrast, industry accounted for just 15.8 % of value added in France, with even lower proportions being recorded in Greece (13.7 %), Cyprus (11.9 %) and Luxembourg (10.6 %).

Construction accounted for 5.9 % of value added in the EU-25 in 2004, while agriculture, hunting, forestry and fishing and public

Figure 1.7
Breakdown of gross value added at basic prices, EU-25, 2004
(% of total EU-25 value added)



Source: Eurostat, National accounts (Breakdown by 6 branches - Macroeconomic aggregates at current prices)

Table 1.4
Breakdown of gross value added, 2004 (% share of total value added)

	Agriculture, hunting, forestry; fishing (NACE A & B)	Industry (NACE C to E)	Construction (NACE F)	Distributive trades; hotels & restaurants; transport & communications (NACE G to I)	Financial intermediation; business services (NACE J & K)	Public administration and other services (NACE L to P)
EU-25	2.0	20.7	5.9	21.3	27.5	22.5
BE	1.4	19.6	4.9	20.6	29.0	24.5
CZ	3.0	30.7	6.7	25.7	16.7	17.1
DK	2.2	18.7	5.1	22.1	24.9	27.0
DE	1.1	25.1	4.0	18.1	29.1	22.6
EE	4.3	22.2	6.7	28.2	20.7	18.0
EL	6.4	13.7	8.6	28.6	20.9	21.9
ES	3.5	18.5	10.8	25.9	20.8	20.5
FR	2.5	15.8	5.9	19.1	31.0	25.8
IE (1)	2.7	33.0	8.2	17.6	21.4	17.2
IT	2.5	21.4	5.2	23.2	27.7	20.0
CY	3.8	11.9	8.0	27.7	24.1	24.5
LV	4.3	17.2	5.8	35.5	18.2	19.0
LT	5.7	25.6	7.1	32.9	12.1	16.6
LU	0.5	10.6	5.5	20.4	46.7	16.4
HU (1)	3.3	25.5	4.9	20.8	21.4	24.2
MT	2.5	20.1	4.5	27.7	19.3	26.0
NL	2.3	18.6	5.9	21.2	26.9	25.1
AT	1.9	22.8	7.5	24.8	22.5	20.5
PL	2.9	26.6	5.5	28.4	16.4	20.1
PT	3.5	19.1	6.5	24.0	19.3	27.6
SI (1)	2.6	30.2	5.7	21.0	20.2	20.4
SK	3.9	26.5	5.6	25.8	21.3	16.9
FI	3.1	24.8	5.4	23.0	21.0	22.7
SE	1.8	23.6	4.5	19.0	23.8	27.3
UK	0.9	18.5	6.2	22.2	30.0	22.1

(1) 2003.

Source: Eurostat, National accounts (Breakdown by 6 branches - Macroeconomic aggregates at current prices)

administration and other services, which are outside the scope of the main part of this publication, together accounted for 24.6 % of EU-25 value added.

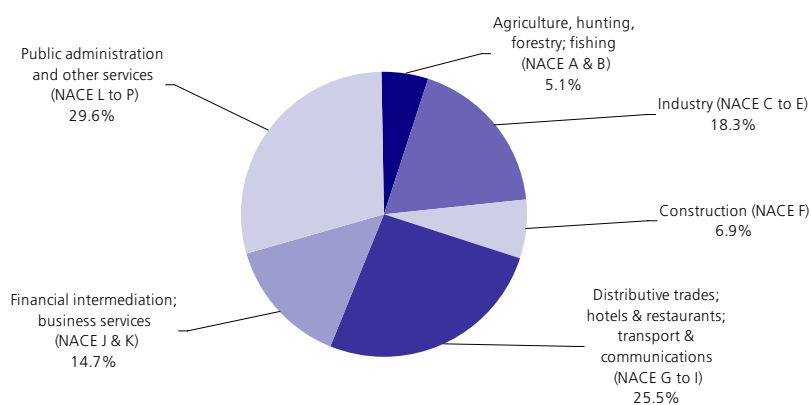
There are wide differences between the relative importance of the different branches of the economy across the Member States. It is important to remember these when reading the main body of the publication, as ratios in the text often refer to the proportion of a particular activity in the non-financial business economy, the industrial economy or the non-financial services economy, the size and importance of which varies considerably across Member States.

There were 200.5 million persons employed in the EU-25 in 2004. At the level of the six branches used for this analysis, public

administration and other services (NACE Sections L to P) accounted for the highest proportion of employment, with 59.3 million persons or 29.6 % of the total (see Figure 1.8). The next most important branch in terms of the level of employment was that of distributive trades, hotels and restaurants, transport and communications, which accounted for 25.5 % of total employment, while industry provided 18.3 % of the total, and financial intermediation and business services some 14.7 %. Agriculture, hunting, forestry, and fishing, and construction together employed 24 million persons, equivalent to 12.0 % of the EU-25 total.

The proportion of EU-25 employment accounted for by each of the six branch aggregates can be compared with their relative shares of EU-25 value added, with value added per person employed often used as a simple indicator of productivity (apparent labour productivity). Industry, and financial intermediation and business services were the only branches to report a higher proportion of total value added than employment, suggesting these were the most productive (or capital intensive) branches of the EU economy, according to this measure. The difference was particularly marked for financial intermediation and business services, which accounted for 27.5 % of EU-25 value added in 2004, while its share of EU-25 employment was 12.9 percentage points lower. All of the remaining branches could be described as relatively labour intensive, with public administration and other services accounting for 29.6 % of EU-25 employment, some 7.1 percentage points more than its share of value added. A more detailed analysis of apparent labour productivity using structural business statistics (SBS) is provided in section 1.4 below.

Figure 1.8
Breakdown of employment, EU-25, 2004 (% of total EU-25 employment)



Source: Eurostat, National accounts (Breakdown by 6 branches - Employment data)

1.4: DETAILED STRUCTURE OF THE ECONOMY

In recent years, a growing number of industry leaders and politicians have voiced concerns about the manufacturing base moving out of the EU-25 to other regions of the world that are often characterised by relatively low labour and social costs. Some commentators blame this trend on inflexible labour market regulations, high social costs and increasing regulatory burdens within the EU. However, an alternative school of thought argues that Europe's future is not so much threatened by the loss of labour-intensive industries, as by the migration of high technology, research-intensive sectors.

FROM AN INDUSTRIAL ECONOMY TO A SERVICE-BASED ECONOMY

On 20 April 2004 the Commission adopted a Communication entitled 'Fostering structural change: an industrial policy for an enlarged Europe', which stated that 'the ongoing process of resource allocation from manufacturing industry to services should not be confused with a process of de-industrialisation'. The Communication found

no evidence of a widespread process of genuine de-industrialisation, and in cases where such a phenomena was identified, it maintained that Europe should respond by shifting production to highly skilled sectors, where well-trained labour and innovation could be used to their full potential.

The shift from an industrial economy towards a service-based economy has resulted from a number of factors. The first is that higher productivity growth has been recorded in the industrial economy, while at the same time there has been a transfer of jobs from industrial to service activities. This pattern of net job losses, coupled with rising value added and labour productivity has been especially prevalent in high-technology areas. Another reason is the overlap between services and industry, which tends to accentuate the apparent reduction in the importance of manufacturing. One of the main contributing factors to this process is outsourcing, whereby supporting and ancillary operations which were

previously done in-house are awarded to outside contractors (for example, transport and logistics, information technology, accounts, industrial cleaning). Many units, particularly large ones, carry out a range of activities that go beyond one single NACE heading. For these units the identification of a 'principal activity' is necessary. The 'principal activity' is essentially the one which contributes most to total value added, and as such, it does not necessarily need to account for 50 % of total value added. For example, an enterprise that is made-up of three almost equally sized divisions or departments (manufacturing computers and commercial software development for example) will be attributed wholly to the one with the highest value added.

Table 1.5

Value added and employment within the non-financial business economy, EU-25, 2002

	Value added at factor cost		Number of persons employed	
	(EUR million)	(% share of non-financial business economy total)	(thousands)	(% share of non-financial business economy total)
NON-FINANCIAL BUSINESS ECONOMY (NACE C to I & K)	4 741 045	100.0	116 777	100.0
INDUSTRY (NACE C to E)	1 760 127	37.1	35 883	30.7
Mining and quarrying (NACE C)	66 214	1.4	653	0.6
Manufacturing (NACE D)	1 528 982	32.2	33 718	28.9
Electricity, gas and water supply (NACE E)	164 931	3.5	1 512	1.3
CONSTRUCTION (NACE F)	384 369	8.1	12 165	10.4
NON-FINANCIAL SERVICES (NACE G to I & K)	2 596 549	54.8	68 728	58.9
Distributive trades (NACE G)	898 017	18.9	27 870	23.9
Hotels and restaurants (NACE H)	160 707	3.4	8 004	6.9
Transport and communications (NACE I)	552 153	11.6	11 334	9.7
Business services (NACE K)	985 672	20.8	21 521	18.4

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

A SECTORAL ANALYSIS OF EU-25 VALUE ADDED AND EMPLOYMENT

This section of analysis is based upon structural business statistics (SBS) that constitute the principal source of information for this publication. Information provided in Table 1.5 shows the main section aggregates within the NACE classification for the non-financial business economy (note that the analysis that follows excludes financial intermediation, as covered by NACE Section J).

Across the NACE sections, manufacturing (NACE Section D) generated the highest level of value added in the EU-25 in 2002 (EUR 1 529 billion), followed by three service sectors, business services (NACE Section K), distributive trades (NACE Section G) and transport and communications (NACE Section I). The smallest activities at this level of detail, generating less than 5 % of total added value in the EU-25's non-financial services business economy were electricity, gas and water supply (NACE Section E), hotels and restaurants (NACE Section H), and mining and quarrying (NACE Section C).

In terms of its contribution to total employment, the relative importance of the manufacturing sector was reduced, as it accounted for 28.9 % of those employed in the EU-25's non-financial business economy in 2002 (compared with a 32.2 % share of value added). Business services, electricity, gas and water supply, and transport and communications also reported relatively low shares of employment in comparison with their contributions to value added. On the other hand, distributive trades and hotels and restaurants together employed 30.7 % of the workforce, while contributing 22.3 % of value added.

VALUE ADDED AND EMPLOYMENT IN THE MEMBER STATES

Figure 1.9 shows the size of each Member State in terms of its contribution to EU-25 value added and employment within the non-financial business economy. Germany was the largest contributor, with a 21.3 % share of value added and a 17.6 % share of employment in 2002. The addition of the United Kingdom, France⁽⁵⁾, Italy and Spain led to cumulative shares of 74.5 % of value added and 67.8 % of employment for the five largest Member States, while the Member States that joined the EU in 2004⁽⁶⁾ contributed 4.2 % to EU-25 value added and 14.5 % to EU-25 employment. The Member States with the highest apparent labour productivity included Denmark, Finland, Luxembourg, the United Kingdom and Belgium⁽⁷⁾. Eight of the Member States that joined the EU in 2004⁽⁸⁾ reported that their share of EU-25 employment was at least double their share of EU-25 value added: Malta was the only exception to this rule.

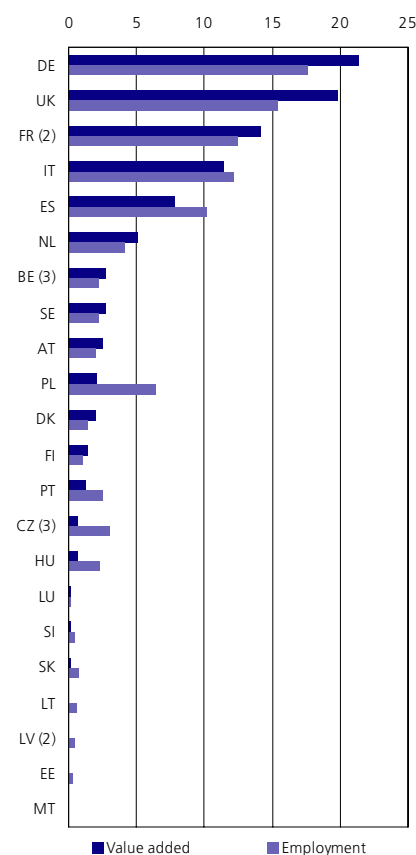
⁽⁵⁾ Value added, 2000; employment, 2001.

⁽⁶⁾ Cyprus, not available; the Czech Republic and Latvia, value added for 2000; Latvia, employment for 2001.

⁽⁷⁾ Greece, Ireland and Cyprus, not available.

⁽⁸⁾ Cyprus, not available.

Figure 1.9
Breakdown by Member State of value added and employment in the non-financial business economy, EU-25, 2002 (% share of EU-25 total) (1)



(1) Ranked according to value added; Greece, Ireland and Cyprus, not available.

(2) Value added, 2000; employment, 2001.

(3) Value added, 2000.

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Table 1.6
Largest NACE divisions within the industrial economy in terms of value added (1)

	Largest	Second largest	Third largest
EU-25	Food products and beverages (NACE 15)	Chemicals (NACE 24)	Machinery and equipment (NACE 29)
BE	Chemicals (NACE 24)	Food products and beverages (NACE 15)	Electricity, gas, steam and hot water supply (NACE 40)
CZ	Electricity, gas, steam and hot water supply (NACE 40)	Motor vehicles (NACE 34)	Fabricated metal products (NACE 28)
DK	Food products and beverages (NACE 15)	Extraction of crude petroleum and natural gas (NACE 11)	Machinery and equipment (NACE 29)
DE	Machinery and equipment (NACE 29)	Motor vehicles (NACE 34)	Chemicals (NACE 24)
EE	Electricity, gas, steam and hot water supply (NACE 40)	Food products and beverages (NACE 15)	Wood (NACE 20)
EL	:	:	:
ES	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Electricity, gas, steam and hot water supply (NACE 40)
FR	Food products and beverages (NACE 15)	Electricity, gas, steam and hot water supply (NACE 40)	Chemicals (NACE 24)
IE	Chemicals (NACE 24)	Food products and beverages (NACE 15)	Publishing and printing (NACE 22)
IT	Machinery and equipment (NACE 29)	Fabricated metal products (NACE 28)	Food products and beverages (NACE 15)
CY	Food products and beverages (NACE 15)	Other non-metallic mineral products (NACE 26)	Furniture and other manufacturing (NACE 36)
LV	Electricity, gas, steam and hot water supply (NACE 40)	Wood (NACE 20)	Publishing and printing (NACE 22)
LT	Electricity, gas, steam and hot water supply (NACE 40)	Clothing (NACE 18)	Wood (NACE 20)
LU	Basic metals (NACE 27)	Rubber and plastics (NACE 25)	Fabricated metal products (NACE 28)
HU	Electricity, gas, steam and hot water supply (NACE 40)	Motor vehicles (NACE 34)	Chemicals (NACE 24)
MT	Radio, TV and communication equipment (NACE 32)	Furniture and other manufacturing (NACE 36)	Publishing and printing (NACE 22)
NL	Chemicals (NACE 24)	Publishing and printing (NACE 22)	Fabricated metal products (NACE 28)
AT	Machinery and equipment (NACE 29)	Electricity, gas, steam and hot water supply (NACE 40)	Fabricated metal products (NACE 28)
PL	Electricity, gas, steam and hot water supply (NACE 40)	Coke, refined petroleum products, nuclear fuels (NACE 23)	Other non-metallic mineral products (NACE 26)
PT	Electricity, gas, steam and hot water supply (NACE 40)	Food products and beverages (NACE 15)	Other non-metallic mineral products (NACE 26)
SI	Fabricated metal products (NACE 28)	Chemicals (NACE 24)	Machinery and equipment (NACE 29)
SK	Electricity, gas, steam and hot water supply (NACE 40)	Basic metals (NACE 27)	Motor vehicles (NACE 34)
FI	Radio, TV and communication equipment (NACE 32)	Pulp and paper (NACE 21)	Machinery and equipment (NACE 29)
SE	Machinery and equipment (NACE 29)	Chemicals (NACE 24)	Electricity, gas, steam and hot water supply (NACE 40)
UK	Food products and beverages (NACE 15)	Extraction of crude petroleum and natural gas (NACE 11)	Chemicals (NACE 24)

(1) Mixed reference years, 2002 and 2001; the following NACE Divisions were not available, Belgium: 10, 11, 13, 14; Czech Republic: 11, 12, 15, 16; Denmark: 19, 23, 37; Estonia: 10, 11; Greece: no information available; France: 10, 12; Ireland: 10, 11, 22, 36, 40; Latvia: 15, 16, 19, 23, 30, 32; Lithuania: 15, 16; Luxembourg: 15, 16, 22, 30, 32, 34, 35; Hungary: 15, 16; Malta: 15, 16, 20, 23, 27, 28, 40, 41; Netherlands: 15, 16, 32, 33; Austria: 10, 11, 13, 14, 16, 23; Poland: 10, 11, 13, 14, 15, 16, 24; Portugal: 11, 13; Slovenia: 10, 11, 12, 13, 14, 15, 16, 19, 23; Slovakia: 16, 23; Finland: 13, 14; Sweden: 15, 16.

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Tables 1.6 and 1.7 show the largest industrial activities (at the NACE division level) within the Member States in terms of value added and employment in 2002. Note that the tables have been compiled solely on the basis of available information for 2001 and 2002 and for some Member States there may be a considerable number of divisions for which no information is available either because it is not compiled or because it is confidential. Table 1.6 shows that the largest industrial (NACE Sections C to E) activity in the EU-25 in value added terms was the manufacture of food products, beverages and tobacco (NACE Division 15), followed by chemicals (NACE Division 24) and machinery and equipment (NACE Division 29). The first and third largest activities remained the same in a ranking of EU-25 industrial employment by NACE division, however, chemicals dropped from second place out of the top three to be replaced by the manufacture of fabricated metal products (NACE Division 28).

Table 1.7

Largest NACE divisions within the industrial economy in terms of employment (1)

	Largest	Second largest	Third largest
EU-25	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)
BE	Food products and beverages (NACE 15)	Chemicals (NACE 24)	Fabricated metal products (NACE 28)
CZ	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)	Electrical machinery and apparatus (NACE 31)
DK	Food products and beverages (NACE 15)	Machinery and equipment (NACE 29)	Publishing and printing (NACE 22)
DE	Machinery and equipment (NACE 29)	Motor vehicles (NACE 34)	Food products and beverages (NACE 15)
EE	Food products and beverages (NACE 15)	Wood (NACE 20)	Clothing (NACE 18)
EL	:	:	:
ES	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Other non-metallic mineral products (NACE 26)
FR	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)
IE	Food products and beverages (NACE 15)	Chemicals (NACE 24)	Medical, precision and optical equipment (NACE 33)
IT	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)	Food products and beverages (NACE 15)
CY	Food products and beverages (NACE 15)	Furniture and other manufacturing (NACE 36)	Fabricated metal products (NACE 28)
LV	Food products and beverages (NACE 15)	Wood (NACE 20)	Electricity, gas, steam and hot water supply (NACE 40)
LT	Clothing (NACE 18)	Wood (NACE 20)	Electricity, gas, steam and hot water supply (NACE 40)
LU	Basic metals (NACE 27)	Fabricated metal products (NACE 28)	Rubber and plastics (NACE 25)
HU	Fabricated metal products (NACE 28)	Electrical machinery and apparatus (NACE 31)	Machinery and equipment (NACE 29)
MT	Other transport equipment (NACE 35)	Furniture and other manufacturing (NACE 36)	Clothing (NACE 18)
NL	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)
AT	Machinery and equipment (NACE 29)	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)
PL	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)	Clothing (NACE 18)
PT	Clothing (NACE 18)	Food products and beverages (NACE 15)	Textiles (NACE 17)
SI	Fabricated metal products (NACE 28)	Machinery and equipment (NACE 29)	Furniture and other manufacturing (NACE 36)
SK	Food products and beverages (NACE 15)	Machinery and equipment (NACE 29)	Electrical machinery and apparatus (NACE 31)
FI	Machinery and equipment (NACE 29)	Fabricated metal products (NACE 28)	Food products and beverages (NACE 15)
SE	Machinery and equipment (NACE 29)	Fabricated metal products (NACE 28)	Motor vehicles (NACE 34)
UK	Food products and beverages (NACE 15)	Fabricated metal products (NACE 28)	Publishing and printing (NACE 22)

(1) Mixed reference years, 2002 and 2001; the following NACE Divisions were not available, Belgium: 10, 11, 13; Czech Republic: 11, 12, 15, 16; Denmark: 19, 23, 37; Estonia: 10, 11; Greece: no information available; France: 10, 12; Ireland: 10, 11, 23, 36, 40; Cyprus: 40; Lithuania: 15, 16; Luxembourg: 15, 16, 22, 30, 32, 34, 35; Hungary: 15, 16; Malta: 15, 16, 20, 23, 27, 28, 40, 41; Netherlands: 32; Austria: 10, 11, 13, 14, 16, 23; Poland: 10, 11, 13, 14, 15, 16, 24, 26; Portugal: 11, 13; Slovenia: 10, 11, 12, 13, 14, 15, 16, 19, 23; Slovakia: 16, 23; Finland: 13, 14; Sweden: 15, 16.

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Table 1.8
Highest value added specialisation ratios (relative to the EU-25 average) within the industrial economy (1)

	Highest	Second highest	Third highest
BE	Chemicals (NACE 24)	Recycling (NACE 37)	Textiles (NACE 17)
CZ	Mining of coal and lignite; extraction of peat (NACE 10)	Other non-metallic mineral products (NACE 26)	Basic metals (NACE 27)
DK	Extraction of crude petroleum and natural gas (NACE 11)	Furniture and other manufacturing (NACE 36)	Tobacco products (NACE 16)
DE	Motor vehicles (NACE 34)	Electrical machinery and apparatus (NACE 31)	Machinery and equipment (NACE 29)
EE	Wood (NACE 20)	Clothing (NACE 18)	Textiles (NACE 17)
EL	:	:	:
ES	Coke, refined petroleum products, nuclear fuels (NACE 23)	Other non-metallic mineral products (NACE 26)	Other mining and quarrying (NACE 14)
FR	Recycling (NACE 37)	Office machinery and computers (NACE 30)	Electricity, gas, steam and hot water supply (NACE 40)
IE	:	:	:
IT	Leather (NACE 19)	Clothing (NACE 18)	Textiles (NACE 17)
CY	Tobacco products (NACE 16)	Other mining and quarrying (NACE 14)	Collection, purification and distribution of water (NACE 41)
LV	Wood (NACE 20)	Textiles (NACE 17)	Electricity, gas, steam and hot water supply (NACE 40)
LT	Clothing (NACE 18)	Wood (NACE 20)	Collection, purification and distribution of water (NACE 41)
LU	Basic metals (NACE 27)	Rubber and plastics (NACE 25)	Textiles (NACE 17)
HU	Coke, refined petroleum products, nuclear fuels (NACE 23)	Radio, TV and communication equipment (NACE 32)	Electrical machinery and apparatus (NACE 31)
MT	Clothing (NACE 18)	Furniture and other manufacturing (NACE 36)	Textiles (NACE 17)
NL	Extraction of crude petroleum and natural gas (NACE 11)	Publishing and printing (NACE 22)	Recycling (NACE 37)
AT	Radio, TV and communication equipment (NACE 32)	Wood (NACE 20)	Basic metals (NACE 27)
PL	Coke, refined petroleum products, nuclear fuels (NACE 23)	Collection, purification and distribution of water (NACE 41)	Electricity, gas, steam and hot water supply (NACE 40)
PT	Clothing (NACE 18)	Leather (NACE 19)	Textiles (NACE 17)
SI	Clothing (NACE 18)	Textiles (NACE 17)	Wood (NACE 20)
SK	Basic metals (NACE 27)	Electricity, gas, steam and hot water supply (NACE 40)	Leather (NACE 19)
FI	Radio, TV and communication equipment (NACE 32)	Pulp and paper (NACE 21)	Wood (NACE 20)
SE	Mining of metal ores (NACE 13)	Pulp and paper (NACE 21)	Wood (NACE 20)
UK	Extraction of crude petroleum and natural gas (NACE 11)	Other transport equipment (NACE 35)	Office machinery and computers (NACE 30)

(1) Mixed reference years, 2002 and 2001; the following NACE Divisions were not available, Belgium: 10, 11, 13, 14; Czech Republic: 11, 12, 13, 14, 15, 16; Denmark: 19, 23, 37; Estonia: 10, 11; Greece: no information available; France: 10, 12, 16; Ireland: no information available; Cyprus: 40; Latvia: 15, 16, 19, 23, 30, 32; Lithuania: 10, 11; Luxembourg: 15, 16, 22, 30, 34, 35; Hungary: 15, 16; Malta: 10, 11, 12, 13, 15, 16, 20, 23, 26, 27, 28, 32, 33, 40, 41; Netherlands: 15, 16, 32, 33; Austria: 10, 11, 13, 14, 16, 23; Poland: 10, 11, 13, 14, 15, 16, 24, 32, 33; Portugal: 11, 13; Slovenia: 10, 11, 12, 13, 14, 15, 16, 19, 23; Slovakia: 16, 23; Finland: 13, 14; Sweden: 15, 16.

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Table 1.8 presents information on the three most specialised industrial activities in each of the Member States at the NACE division level. Specialisation in this case is defined as the proportion of industrial value added generated by a particular sector, in relation to the same ratio for the EU-25. As such, values of more than 100 % indicate that the industrial activity in question is relatively more important in the Member State concerned than the average for the EU-25 as a whole, while those below 100 % indicate the opposite. The data presented in Table 1.8 confirms many established views concerning the make-up of the European industrial economy. For example, the highest relative specialisation ratio in Germany was recorded for motor vehicles (NACE Division 34), while electrical machinery (NACE Division 31) and machinery and equipment (NACE Division 29) were the next most specialised activities in Europe's largest industrial economy. Equally, it was no surprise to find that the United Kingdom was relatively specialised in the extraction of crude petroleum and natural gas (NACE Division 11) and, in a similar vein, that textiles (NACE Division 17),

clothing (NACE Division 18) and leather (NACE Division 19) recorded the three highest specialisation ratios in the Italian and Portuguese industrial economies, while wood (NACE Division 20) and pulp and paper (NACE Division 21) were among the three most specialised activities in Finland and Sweden.

Table 1.9
Largest NACE divisions within the non-financial services economy in terms of value added (1)

	Largest	Second largest	Third largest
EU-25	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Retail trade (NACE 52)
BE	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Retail trade (NACE 52)
CZ	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Post and telecommunications (NACE 64)
DK	Wholesale trade (NACE 51)	Real estate (NACE 70)	Other business activities (NACE 74)
DE	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
EE	Wholesale trade (NACE 51)	Supporting transport activities; travel agencies (NACE 63)	Other business activities (NACE 74)
EL	:	:	:
ES	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Retail trade (NACE 52)
FR	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
IE	Other business activities (NACE 74)	Post and telecommunications (NACE 64)	Retail trade (NACE 52)
IT	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Retail trade (NACE 52)
CY	Hotels and restaurants (NACE 55)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
LV	Wholesale trade (NACE 51)	Post and telecommunications (NACE 64)	Retail trade (NACE 52)
LT	Wholesale trade (NACE 51)	Retail trade (NACE 52)	Post and telecommunications (NACE 64)
LU	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Post and telecommunications (NACE 64)
HU	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Post and telecommunications (NACE 64)
MT	Hotels and restaurants (NACE 55)	Supporting transport activities; travel agencies (NACE 63)	Air transport (NACE 62)
NL	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Retail trade (NACE 52)
AT	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Retail trade (NACE 52)
PL	Wholesale trade (NACE 51)	Retail trade (NACE 52)	Other business activities (NACE 74)
PT	Wholesale trade (NACE 51)	Retail trade (NACE 52)	Other business activities (NACE 74)
SI	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Retail trade (NACE 52)
SK	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Post and telecommunications (NACE 64)
FI	Wholesale trade (NACE 51)	Other business activities (NACE 74)	Retail trade (NACE 52)
SE	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Real estate (NACE 70)
UK	Other business activities (NACE 74)	Wholesale trade (NACE 51)	Retail trade (NACE 52)

(1) Mixed reference years, 2002 and 2001; the following NACE Divisions were not available, Greece: no information available; Ireland: 61, 62, 63; Cyprus: 70; Poland: 61, 62, 63, 64; Slovakia: 61, 62.

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Tables 1.9 to 1.11 present a similar set of information for the non-financial services (NACE Sections G to I and K) NACE divisions. Within the EU-25 the largest activity, in terms of added value and employment was other business activities (NACE Division 74). Wholesale trade (NACE Division 51) was the second largest in terms of its contribution to added value within the non-financial services' economy, and the third largest in terms of its contribution to employment, while second and third positions were reversed for retail trade (NACE Division 52).

All four of the EU-25's largest economies reported that other business activities were their largest non-financial services sector, explaining why this was the largest EU-25 non-financial services' sector in terms of added value, although this pattern was only repeated in four other Member States, while wholesale trade accounted for the highest level of value added in 14 Member States⁽⁹⁾ (see Table 1.9). Cyprus and Malta both reported that their largest contribution to non-financial services' value added was from the activity of hotels and restaurants (NACE Division 55).

⁽⁹⁾ Greece, not available.

Table 1.10
Largest NACE divisions within the non-financial services economy in terms of employment (1)

	Largest	Second largest	Third largest
EU-25	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
BE	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
CZ	Retail trade (NACE 52)	Other business activities (NACE 74)	Wholesale trade (NACE 51)
DK	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
DE	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
EE	Retail trade (NACE 52)	Wholesale trade (NACE 51)	Other business activities (NACE 74)
EL	:	:	:
ES	Retail trade (NACE 52)	Other business activities (NACE 74)	Hotels and restaurants (NACE 55)
FR	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
IE	Retail trade (NACE 52)	Hotels and restaurants (NACE 55)	Other business activities (NACE 74)
IT	Retail trade (NACE 52)	Other business activities (NACE 74)	Wholesale trade (NACE 51)
CY	Hotels and restaurants (NACE 55)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
LV	Retail trade (NACE 52)	Land transport (NACE 60)	Wholesale trade (NACE 51)
LT	Retail trade (NACE 52)	Retail trade (NACE 52)	Land transport (NACE 60)
LU	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
HU	Retail trade (NACE 52)	Other business activities (NACE 74)	Land transport (NACE 60)
MT	Hotels and restaurants (NACE 55)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
NL	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
AT	Retail trade (NACE 52)	Other business activities (NACE 74)	Hotels and restaurants (NACE 55)
PL	Retail trade (NACE 52)	Wholesale trade (NACE 51)	Other business activities (NACE 74)
PT	Retail trade (NACE 52)	Wholesale trade (NACE 51)	Other business activities (NACE 74)
SI	Retail trade (NACE 52)	Other business activities (NACE 74)	Wholesale trade (NACE 51)
SK	Wholesale trade (NACE 51)	Land transport (NACE 60)	Retail trade (NACE 52)
FI	Retail trade (NACE 52)	Other business activities (NACE 74)	Wholesale trade (NACE 51)
SE	Other business activities (NACE 74)	Retail trade (NACE 52)	Wholesale trade (NACE 51)
UK	Other business activities (NACE 74)	Retail trade (NACE 52)	Hotels and restaurants (NACE 55)

(1) Mixed reference years, 2002 and 2001; the following NACE Divisions were not available, Greece: no information available; Ireland: 61, 62, 63; Cyprus: 70; Poland: 61, 62, 63, 64; Slovakia: 61, 62.
Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

As with value added, other business activities were the largest employer within the non-financial services' economies of eight of the Member States, including the four largest (see Table 1.10). Retail trade was the largest employer in 13 of the remaining Member States⁽¹⁰⁾, while hotels and restaurants employed the most persons in Cyprus and Malta, and wholesale trade in Slovakia.

⁽¹⁰⁾ Greece, not available.

The highest relative specialisation ratios within the non-financial services' economy (see Table 1.11) were often recorded for one of the activities within transport and communications (NACE Section I) and could, to some degree, be explained by geographical factors. As such, several Member States in central Europe were relatively specialised in land transport (NACE Division 60), while several Member States with coastlines onto the North or Baltic Seas were relatively specialised in water transport (NACE Division 61). The southern tourist destinations of Malta and Portugal were relatively specialised in air transport (NACE Division 62), as were Luxembourg and the United Kingdom, while Spain and Italy's highest relative specialisation was in hotels and restaurants. Germany was relatively specialised in real estate activities (NACE Division 70) and France in renting (NACE Division 71).

CHARACTERISTICS OF THE LABOUR FORCE

Labour Force Survey (LFS) results may be used to look at the structure of the labour force within the EU-25 in terms of employment characteristics. Note that the data from the LFS are collected upon the basis of a questionnaire addressed to individuals who are classified according to the activity of the local unit they work for and not enterprise based data as is the case for SBS. Figure 1.10 illustrates clearly an issue currently faced by many European governments, namely a relatively high dependency ratio - persons not in employment divided by persons employed (limited to the population of persons aged 15 or over). There are a number of reasons for this, including an ageing society and a greater take-up of higher education, both of which reduce the proportion of persons in employment.

Most governments within the EU-25 have agreed that it is necessary to stimulate labour markets and encourage people into employment, thus reducing the need for social security payments, while increasing tax revenues. Indeed, most Member States managed to increase their activity rates in the past couple of decades, largely as a result of an increased proportion of women going to work. While early retirement was a buzzword only a few years ago, the acknowledgement of a forthcoming pension crisis has triggered discussions in many countries concerning a possible rise in compulsory retirement ages, in an attempt to widen the collection of tax receipts and offset dependency rates.

The proportion of persons aged 15 or more who were economically inactive (for example, children, persons choosing to stay at home to look after a house or a family, or retired persons) in the EU-25 in 2004 was 43.8 %. Put another way, some 56.2 % of the EU-25's population aged 15 or more were in employment or unemployed (actively searching for employment and willing to work). Adding the number of unemployed and economically inactive persons together, almost half (49.1 %) of the EU-25's population aged 15 or more was not working in 2004. Across the Member States the proportion of persons aged 15 or more who were either inactive or unemployed was highest in Poland (57.4 %), where unemployment was particularly pronounced, and in Italy (55.0 %), where the majority of persons (51.0 %) were economically inactive. At the other end of the ranking, around 38 % of those aged 15 or more were either economically inactive or unemployed in Denmark and the Netherlands.

Table 1.11

Highest value added specialisation ratios (relative to the EU-25 average) within the non-financial services economy (1)

	Highest	Second highest	Third highest
BE	Land transport (NACE 60)	Wholesale trade (NACE 51)	Renting (NACE 71)
CZ	Wholesale trade (NACE 51)	Land transport (NACE 60)	Retail trade (NACE 52)
DK	Water transport (NACE 61)	Real estate (NACE 70)	Air transport (NACE 62)
DE	Real estate (NACE 70)	Water transport (NACE 61)	Research and development (NACE 73)
EE	Supporting transport activities; travel agencies (NACE 63)	Water transport (NACE 61)	Wholesale trade (NACE 51)
EL	:	:	:
ES	Hotels and restaurants (NACE 55)	Real estate (NACE 70)	Land transport (NACE 60)
FR	Renting (NACE 71)	Land transport (NACE 60)	Retail trade (NACE 52)
IE	Post and telecommunications (NACE 64)	Computer services (NACE 72)	Hotels and restaurants (NACE 55)
IT	Hotels and restaurants (NACE 55)	Land transport (NACE 60)	Post and telecommunications (NACE 64)
CY	:	:	:
LV	Supporting transport activities; travel agencies (NACE 63)	Post and telecommunications (NACE 64)	Wholesale trade (NACE 51)
LT	Water transport (NACE 61)	Land transport (NACE 60)	Post and telecommunications (NACE 64)
LU	Air transport (NACE 62)	Research and development (NACE 73)	Post and telecommunications (NACE 64)
HU	Land transport (NACE 60)	Post and telecommunications (NACE 64)	Motor trades (NACE 50)
MT	Air transport (NACE 62)	Supporting transport activities; travel agencies (NACE 63)	Hotels and restaurants (NACE 55)
NL	Research and development (NACE 73)	Water transport (NACE 61)	Air transport (NACE 62)
AT	Land transport (NACE 60)	Renting (NACE 71)	Hotels and restaurants (NACE 55)
PL	Land transport (NACE 60)	Wholesale trade (NACE 51)	Retail trade (NACE 52)
PT	Air transport (NACE 62)	Wholesale trade (NACE 51)	Motor trades (NACE 50)
SI	Land transport (NACE 60)	Wholesale trade (NACE 51)	Motor trades (NACE 50)
SK	Post and telecommunications (NACE 64)	Land transport (NACE 60)	Research and development (NACE 73)
FI	Water transport (NACE 61)	Air transport (NACE 62)	Land transport (NACE 60)
SE	Real estate (NACE 70)	Water transport (NACE 61)	Computer services (NACE 72)
UK	Air transport (NACE 62)	Research and development (NACE 73)	Computer services (NACE 72)

(1) Mixed reference years, 2002 and 2000; the following NACE Divisions were not available, Czech Republic: 62, 64; Greece: no information available; Ireland: 61, 62, 63; Cyprus: no information available; Poland: 61, 62, 63, 64; Slovakia: 61, 62.
Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Figure 1.10

Breakdown of the population by working status, 2004 (% share of the total number of persons aged 15 and over)



Source: Eurostat, Labour Force Survey (LFS)

Table 1.12
Breakdown of the business economy (NACE Sections C to K) workforce, 2004
 (% share of the total number of persons employed)

	Time at work		Gender		Age		
	Full-time	Part-time	Male	Female	15-24	25-49	50 or more
EU-25	85.8	14.2	64.7	35.3	12.0	66.7	21.2
BE	83.5	16.5	67.9	32.1	9.9	71.9	18.2
CZ	96.1	3.9	62.6	37.4	9.0	66.0	25.0
DK	81.2	18.8	66.2	33.8	16.4	59.0	24.6
DE	81.1	18.9	63.0	37.0	11.2	64.8	24.0
EE	93.6	6.4	56.3	43.7	10.8	63.7	25.4
EL	96.8	3.2	68.5	31.5	9.7	70.4	19.9
ES	93.4	6.6	68.1	31.9	11.7	69.8	18.5
FR	88.8	11.2	64.6	35.4	10.6	68.8	20.6
IE	85.5	14.5	64.8	35.2	19.0	64.0	17.0
IT	88.6	11.4	67.4	32.6	8.7	72.2	19.0
CY	93.3	6.7	62.4	37.6	11.3	65.7	23.0
LV	92.9	7.1	58.9	41.1	12.4	64.4	23.1
LT	95.3	4.7	59.1	40.9	8.4	72.6	19.0
LU	87.9	12.1	68.3	31.7	6.2	76.6	17.2
HU	95.8	4.2	61.0	39.0	9.0	70.1	20.9
MT	92.9	7.1	75.9	24.1	24.1	58.0	17.9
NL	62.3	37.7	65.7	34.3	19.0	62.0	19.0
AT	80.6	19.4	60.9	39.1	15.3	68.4	16.3
PL	92.6	7.4	62.8	37.2	10.9	72.7	16.4
PT	95.1	4.9	63.5	36.5	12.4	67.1	20.5
SI	93.8	6.2	60.4	39.6	10.6	72.9	16.4
SK	97.9	2.1	61.5	38.5	12.2	71.1	16.7
FI	87.8	12.2	63.5	36.5	13.2	60.8	26.0
SE	82.0	18.0	66.8	33.2	11.3	60.2	28.5
UK	78.0	22.0	64.1	35.9	16.4	59.0	24.6
BG	98.3	1.7	56.6	43.4	9.2	70.4	20.4
HR	97.6	2.4	62.6	37.4	11.5	69.4	19.1
RO	98.1	1.9	58.0	42.0	10.2	76.6	13.2
IS	85.5	14.5	62.6	37.4	17.5	59.5	23.0
NO	76.9	23.1	66.2	33.8	15.0	60.3	24.6
CH	75.9	24.1	63.9	36.1	15.1	60.0	24.9

Source: Eurostat, Labour Force Survey (LFS)

Table 1.12 provides information on the labour force characteristics of the business economy (NACE Sections C to K) workforce aged 15 or more. It shows that the vast majority (85.8 %) of persons in employment in the EU-25 were working on a full-time basis in 2004. This proportion rose in most of southern Europe and the Member States that joined the EU in 2004, with the highest propensity to employ on a full-time basis being registered in Slovakia (97.9 %). At the other end of the range, part-time working practices were particularly strongly developed in Denmark, Germany, the Netherlands, Austria, Sweden and the United Kingdom, where at least 18 % of those employed were working on a part-time basis.

Female activity rates are affected by many factors, including, fertility rates, the speed at which women decide to return to the workforce, the provision for childcare (crèche and pre-school facilities), and society's attitudes towards working mothers. Men accounted for 64.7 % of the total number of persons employed in the EU-25's business economy in 2004: there were approximately 81 million men employed compared with 44 million women. The proportion of male employment ranged from a high of 75.9 % in Malta to a low of 56.3 % in Estonia, with the Baltic States registering the highest proportions of female employment, followed by most of the other Member States that joined the EU in 2004. At the other end of the range, the southern Member States of Italy, Spain and Greece, as well as Belgium and Luxembourg, were all characterised by a low proportion of female employment.

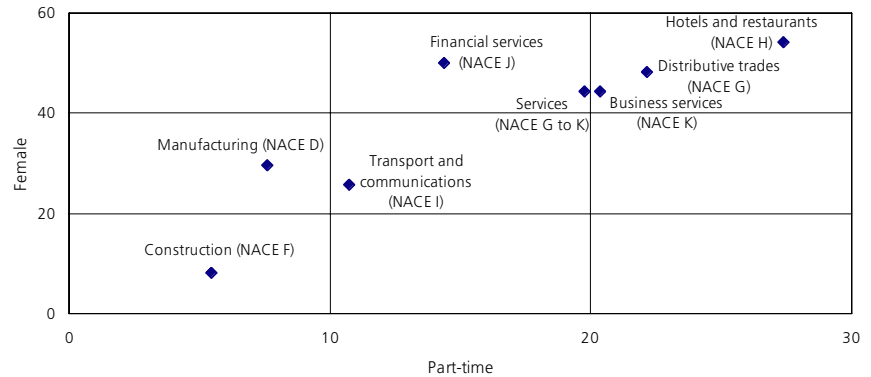
Turning to the age profile of the EU-25's workforce there are two key groups of the population that are often the focus of considerable attention: the young and the old. Youth unemployment rates have traditionally been higher than overall unemployment rates within the EU-25 and this has encouraged governments to expand the scope of further education and encourage youth employment schemes (work experience, apprenticeships). With Europe's population living considerably longer, some commentators question whether compulsory retirement ages should not be adjusted accordingly. In contrast, many individuals value their leisure time and one way this is manifested is through early retirement. The EU-25's business economy workforce was composed of 15 million persons aged from 15 to 24 in 2004 (equivalent to 12.0 % of the total number of persons employed). Some 84 million persons aged from 25 to 49 were employed (66.7 % of the total); while a further 27 million persons aged 50 or more were in work (21.2 % of the total).

Figure 1.11 shows the proportion of persons working on a part-time basis and the proportion of female employment in each NACE section of the EU-25's business economy in 2004. The lowest proportion for both indicators was recorded for construction, where just 5.4 % of those in employment worked on a part-time basis and where women accounted for 8.2 % of the total workforce. There is a relationship between the two indicators, as a rising share of part-time work was often matched by an increasing proportion of women in the workforce. The two service activities of hotels and restaurants, and financial intermediation both reported a higher number of women than men in employment in the EU-25 in 2004. Hotels and restaurants also reported the highest propensity to employ on a part-time basis (27.4 % of those employed), while more than one in five persons worked part-time within distributive trades and business services.

LABOUR PRODUCTIVITY AND AVERAGE PERSONNEL COSTS

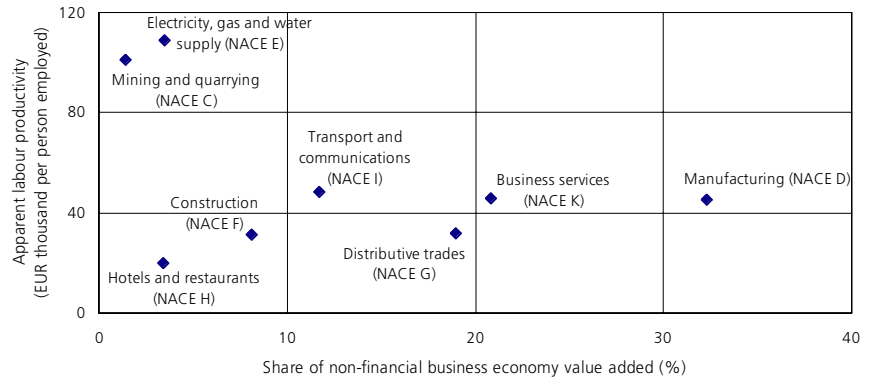
The differences in the contribution of each sector to total employment and value added result in a wide range of apparent labour productivity ratios (value added divided by the number of persons employed) - as shown in Figure 1.12. The relatively small industrial activities of mining and quarrying, and electricity, gas and water supply generated in excess of EUR 100 000 of added value per person employed in the EU-25 in 2002, more than double that recorded in any of the other NACE sections. Transport and communications, business services, and manufacturing followed, with apparent labour productivity situated between EUR 45 000 and EUR 50 000. Distributive trades and construction had similar levels of labour productivity (EUR 32 000), while hotels and restaurants (EUR 20 100) was the least productive activity, according to this measure, in the EU-25.

Figure 1.11 Breakdown by activity of the propensity to employ female and part-time labour, EU-25, 2004 (% share of total number of persons employed) (1)



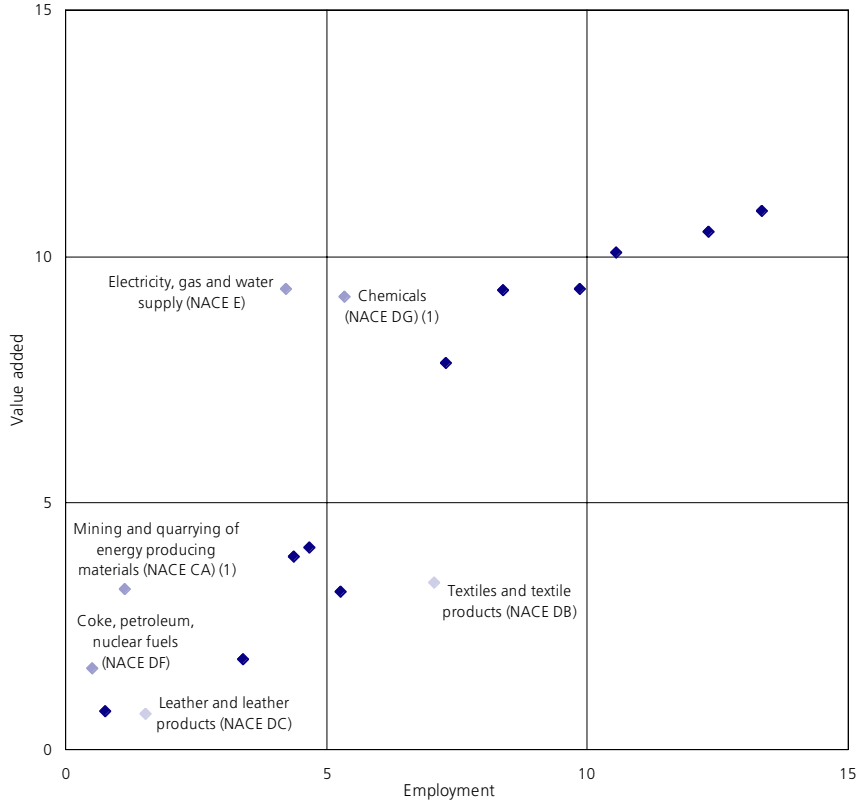
(1) NACE Sections C and E, not available.
Source: Eurostat, Labour Force Survey (LFS)

Figure 1.12 Share of value added in the non-financial business economy and apparent labour productivity, EU-25, 2002



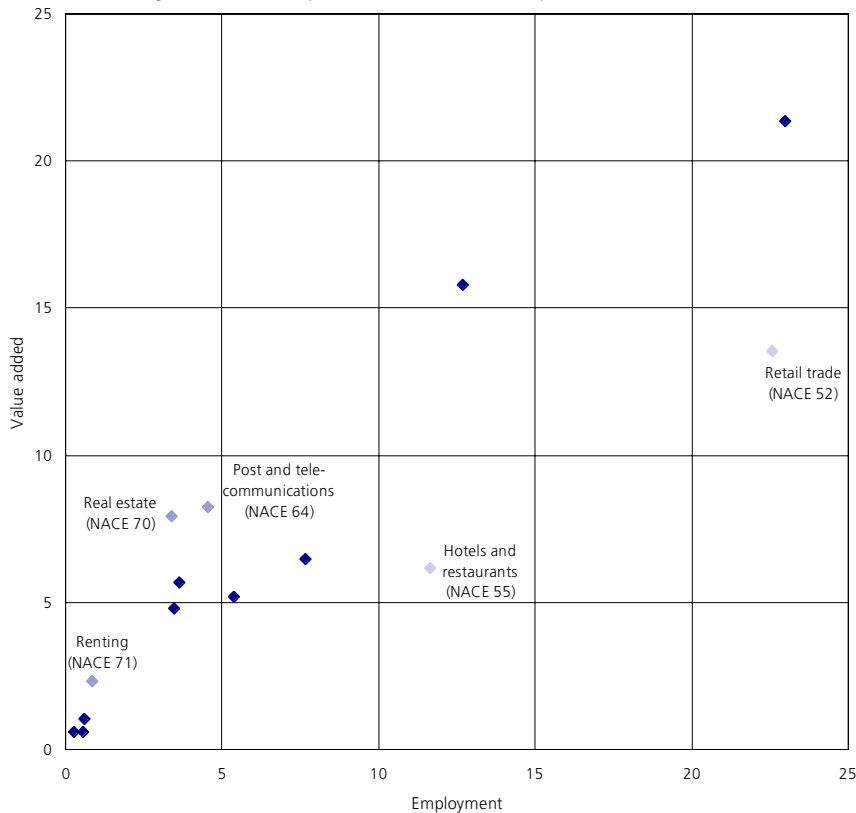
Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Figure 1.13
Breakdown by activity of value added and employment within the industrial economy, EU-25, 2002 (% share of EU-25 total)



(1) 2001.
 Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Figure 1.14
Breakdown by activity of value added and employment within the non-financial services economy, EU-25, 2002 (% share of EU-25 total)



Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

At a more detailed level it is possible to study similar information broken down by NACE subsections within the industrial economy. Figure 1.13 shows a number of labour-intensive industrial activities, with relatively high shares of employment in relation to value added, for example, textiles (NACE Subsection DB) or leather (NACE Subsection DC). At the opposite end of the range, the most productive industrial activities tended to be those characterised by high levels of capital investment: they included the mining and quarrying of energy producing materials (NACE Subsection CA, 2001), the manufacture of coke, refined petroleum products and nuclear fuel (NACE Subsection DF), chemicals (NACE Subsection DG, 2001), and electricity, gas and water supply (NACE Section E).

Figure 1.14 shows similar information for the NACE divisions within non-financial services, where retail trade (NACE Division 52) and hotels and restaurants (NACE Division 55) stood out as being the most labour-intensive activities. In contrast, post and telecommunications (NACE Division 64), real estate activities (NACE Division 70) and renting (NACE Division 71) were the most productive⁽¹¹⁾: note that all three of these activities were relatively small in size, whether they were measured in terms of their share of value added or employment.

⁽¹¹⁾ Note that for the latter two activities care needs to be taken in interpreting the data, as financial and depreciation costs may well constitute the main element of total costs for enterprises operating in these activities, while these are not considered when calculating gross value added; as such, their respective shares of non-financial services' value added may be regarded as not being representative.

Table 1.13

Personnel costs and productivity within the non-financial business economy, EU-25, 2002

	Personnel costs per employee (EUR thousand)	Ratio to non-financial business economy average	Apparent labour productivity (EUR thousand per person employed)	Ratio to non-financial business economy average	Wage adjusted labour productivity (%)	Ratio to non-financial business economy average
NON-FINANCIAL BUSINESS ECONOMY (NACE C to I & K)	28.2	100.0	40.6	100.0	144.0	100.0
INDUSTRY (NACE C to E)	32.7	116.0	49.1	120.8	149.8	104.0
Mining and quarrying (NACE C)	35.2	124.8	101.5	249.9	288.4	200.3
Manufacturing (NACE D)	32.3	114.5	45.3	111.7	140.3	97.5
Electricity, gas and water supply (NACE E)	40.5	143.6	109.1	268.6	269.2	187.0
CONSTRUCTION (NACE F)	25.8	91.5	31.6	77.8	122.3	84.9
NON-FINANCIAL SERVICES (NACE G to I & K)	25.9	91.8	37.8	93.1	145.9	101.4
Distributive trades (NACE G)	22.3	79.1	32.2	79.4	144.4	100.3
Hotels and restaurants (NACE H)	14.9	52.8	20.1	49.5	134.7	93.6
Transport and communications (NACE I)	32.1	113.8	48.7	120.0	151.8	105.4
Business services (NACE K)	30.9	109.6	45.8	112.8	148.4	103.1

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Table 1.13 shows information on average personnel costs and apparent labour productivity for NACE sections within the non-financial business economy. On average, employers within the EU-25 paid EUR 28 200 per employee in 2002 (these figures include wages and salaries, taxes, social security costs, and some other related expenditure). The average cost per employee within industry was somewhat higher at EUR 32 700, while for non-financial services it was EUR 25 900. These aggregate figures hide disparities within each of these broad sectors, as both transport and communications (NACE Section I) and business services (NACE Section K) recorded relatively high average personnel costs (above EUR 30 000), while average personnel costs were below EUR 15 000 per employee for hotels and restaurants (NACE Section H). It is important to note that average personnel costs are calculated based on the number of employees measured as a simple head count, and as such part-time and full-time employees are given equal weight - this under represents average personnel costs in activities with a high incidence of part-time employment, such as hotels and restaurants. Within the industrial economy, the manufacturing sector (NACE Section D) recorded the lowest average personnel costs (although costs were 14.5 % above the non-financial business economy average), while personnel costs were particularly high for electricity, gas and water supply (NACE Section E), some 43.6 % above the non-financial business economy average.

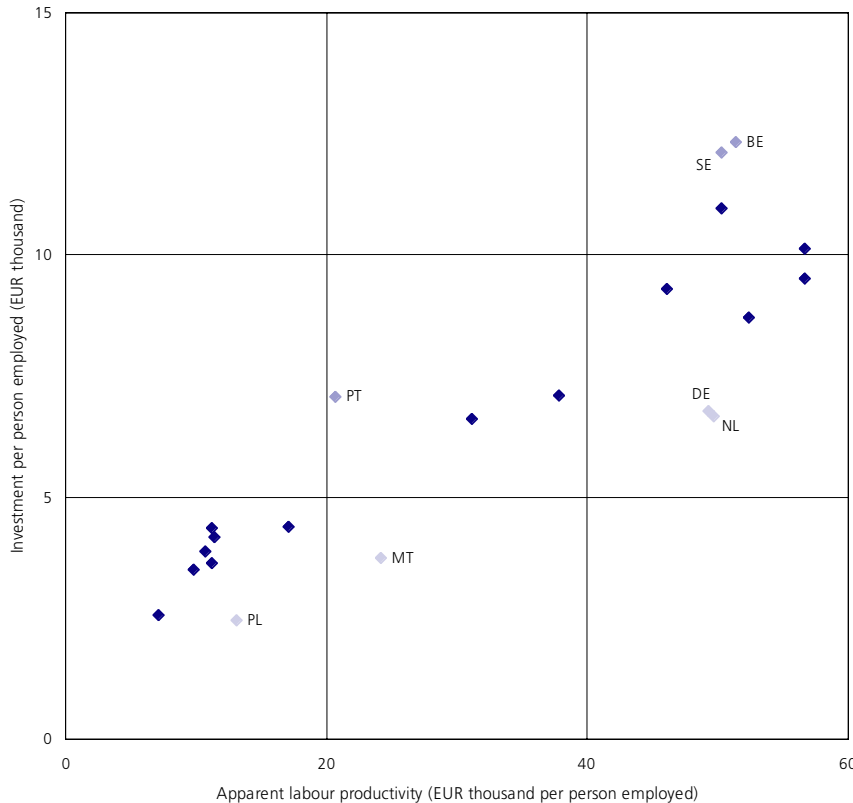
The apparent labour productivity, calculated as the average value added generated by each person employed, was EUR 40 600 in the EU-25's non-financial business economy in 2002. An analysis at the NACE section level shows that all three of the industrial NACE sections reported apparent labour productivity ratios that were above the non-financial business economy average. For electricity, gas and water supply (168.6 % higher than the average) and mining and quarrying (149.9 % higher) the differences were substantial, while the apparent labour productivity of manufacturing was 11.7 % higher than the non-financial business economy average.

Within non-financial services, apparent labour productivity ratios for transport and communications (EUR 48 700) and business services (EUR 45 800) were 20.0 % and 12.8 % higher than the non-financial business average. On the other hand, each person employed within distributive trades generated an average of EUR 32 200 of added value (more than 20 % below the non-financial business economy average), while for hotels and restaurants the corresponding figure was EUR 20 100 (more than 50 % below the average). Again, as for average personnel costs, care has to be taken with these per head ratios which are influenced by the extent of part-time employment.

Dividing value added per person employed by average personnel costs per employee, the resulting ratio is often referred to as wage adjusted labour productivity, which is usually expressed as a percentage (see Table 1.13). The ratio is of particular use when comparing productivity levels across activities or countries that have different labour force structures. For example, it is relatively common to find a higher propensity of unpaid working proprietors and family workers in southern European Member States, while in activities dominated by micro enterprises, such as hotels and restaurants, the differences between the number of employees and the number of persons employed can be considerable. The adjustment in the wage adjusted labour productivity ratio aims to even out these differences.

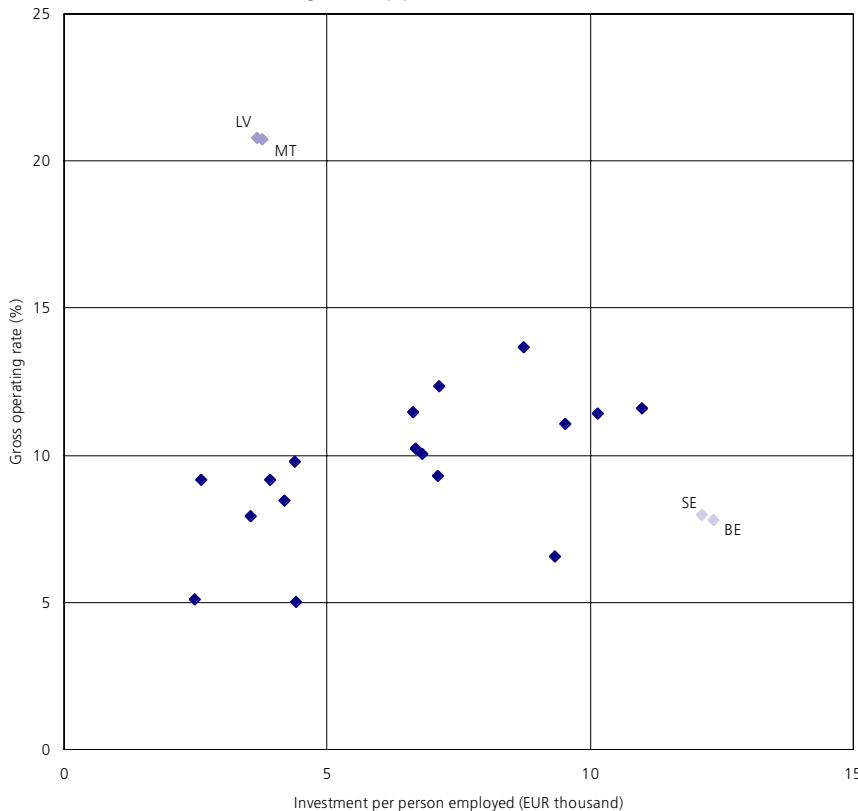
EU-25 wage adjusted labour productivity was 144.0 % in 2002 for the non-financial business economy. The majority of activities reported wage adjusted labour productivity ratios that were close to the non-financial business economy average. There were relatively low productivity ratios for construction and for hotels and restaurants, while mining and quarrying (288.4 %) and electricity, gas and water supply (269.2 %) again recorded the highest productivity ratios.

Figure 1.15
Apparent labour productivity and investment per person employed in the non-financial business economy, 2002 (1)



(1) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland, Cyprus and Luxembourg, not available. Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

Figure 1.16
Investment per person employed and gross operating rate in the non-financial business economy, 2002 (1)



(1) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland, Cyprus and Luxembourg, not available. Source: Eurostat, Structural Business Statistics (Annual enterprise statistics)

INVESTMENT AND PROFITABILITY

There is no EU-25 aggregated data available for investment for 2002. Nevertheless, information has been provided by 21 of the Member States (12). Figure 1.15 shows apparent labour productivity and investment per person employed in the non-financial business economy in 2002. There seems to be a clear correlation between the two indicators, however some care is required in interpreting these data. Investments would normally lead to an increase in apparent labour productivity, but most probably with some time delay. However, both indicators are also positively related to the size of the capital stock. Differences between countries therefore are highly affected by differences in the activity mix of the respective economies (a high share of capital intensive activities, or a high share of labour intensive activities). In addition, the size of wage adjusted labour productivity is affected by the share of paid employees in the total workforce (the higher the share, the higher the wage adjusted labour productivity), which could also differ across countries.

The gross operating rate is a measure of profitability and is defined as the gross operating surplus (value added minus personnel costs) divided by turnover; it is expressed as a percentage. Within the EU-25 the highest gross operating surplus in 2002 (at the NACE section level) was recorded for business services, where profitability (22.9 %) was more than twice the non-financial business economy average of 10.8 %. Manufacturing (8.8 %) and distributive trades (6.2 %) were the only NACE sections to report gross operating rates below the non-financial business economy average.

Figure 1.16 shows investment per person employed and the gross operating rate. There seems to be some evidence of a positive correlation between the two indicators. However, there is the same positive correlation between these indicators and the size of the capital stock as in the figure above (as the gross operating surplus should eventually finance investment). Generally the lowest levels of investment per person employed and the lowest gross operating rates were registered in the Member States that joined the EU in 2004 (13). Latvia and Malta stood out as having by far the highest profitability rates, but with investment per person employed well below the EU average. The opposite was true in Belgium, Sweden, and to a lesser extent France. Member States that reported both relatively high gross operating rates and investment per person employed included the United Kingdom, Austria, Denmark and Finland.

(12) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland, Cyprus and Luxembourg, not available.

(13) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland, Cyprus and Luxembourg, not available.

Table 1.14

Size-class breakdown of value added and employment, EU-25, 2001 (% share of size class in each NACE section)

	Value added					Employment				
	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed
Mining and quarrying (NACE C)	11.3	8.7	17.4	37.4	62.6	5.9	13.9	13.0	32.8	67.2
Manufacturing (NACE D)	7.4	15.8	22.1	45.3	54.7	13.4	20.4	24.0	57.9	42.1
Electricity, gas and water supply (NACE E)	5.2	4.2	11.6	21.0	79.0	2.3	5.1	13.5	20.9	79.1
Construction (NACE F)	:	:	17.6	:	:	:	:	15.5	:	:
Distributive trades (NACE G)	27.7	24.6	17.2	69.5	30.5	40.2	20.9	12.2	73.4	26.6
Hotels and restaurants (NACE H)	38.0	24.6	12.8	75.4	24.6	45.6	24.7	10.4	80.6	19.4
Transport and communications (NACE I)	11.2	12.2	10.4	33.9	66.1	17.3	14.4	12.0	43.7	56.3
Business services (NACE K)	:	:	:	:	:	:	:	:	:	:

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics broken down by size classes)

THE SIZE STRUCTURE OF THE BUSINESS ECONOMY

This section looks at the average size of enterprises within the EU's business economy. Average size depends on a wide range of factors, including the age of the enterprise (as shown below in Section 1.6, the younger the enterprise the greater the likelihood that it is relatively small), the activity in which it operates and the motivation of the entrepreneur(s) in charge of the enterprise. One of the most important factors is that a minimum efficient scale of production exists in certain activities, particularly industrial and energy-related sectors, where investment in large-scale plant and machinery or distribution networks is often required to operate efficiently. On the other hand, there are also activities where small and medium-sized enterprises (SMEs) thrive.

Table 1.14 shows the contribution from each enterprise size class to EU-25 value added and employment in 2001. The relative importance of SMEs (with less than 250 persons employed) was particularly high in the activities of distributive trades and hotels and restaurants, where they accounted for 69.5 % and 75.4 % of total added value and 73.4 % and 80.6 % of total employment⁽¹⁴⁾. In contrast SMEs generated less than half of the added value within industry, and transport and communications.

⁽¹⁴⁾ A full set of information is not available for construction or for business services.

The difference between the proportion of value added and the proportion of employment that is accounted for by SMEs is an indication of their apparent labour productivity. Micro enterprises (with 1 to 9 persons employed) within the industrial activities of mining and quarrying and electricity, gas and water supply were relatively productive in comparison with their larger counterparts, as their share of employment was approximately half their share of value added. Nevertheless, these two examples were more an exception than the rule, as in the remaining NACE sections apparent labour productivity tended to rise as a function of the average size of enterprises. Large enterprises (with 250 or more persons employed) reported the highest apparent labour productivity for manufacturing, hotels and restaurants, and transport and communications, while medium-sized enterprises (with 50 to 249 persons employed) had slightly higher productivity for distributive trades⁽¹⁵⁾.

⁽¹⁵⁾ A full set of information is not available for construction or for business services.

A high proportion of SMEs serve local markets and some commentators argue that they are dissuaded from cross-border expansion due to legal and administrative barriers. Information costs may be a relatively important deterrent that dissuade SMEs from researching alternative markets, particularly within the services sector, where the European internal market has yet to be completed. The so-called 'Bolkestein Directive' on services in the internal market was presented by the Commission in January 2004 and was the subject of great debate. The proposal for a directive covered all services provided to consumers and businesses, except those provided free by public authorities and those already covered by other legislation (for example, financial services, telecommunications and transport services). The Commission argued that the proposal would resolve excessive barriers to trade, thus increasing cross-border competition, choice and quality, while reducing prices. Probably the most controversial aspect of the Directive was the proposal to extend the internal market following the so-called 'country of origin principle', whereby service providers moving into another territory would be subject to the laws of their own country of origin, rather than the Member State where the service would be provided. In March 2005 the Council agreed that there was a need for a 'far reaching' revision of the proposed Directive.

Table 1.15

Size-class breakdown of value added and employment in non-manufacturing industrial activities, EU-25, 2001
 (% share of size class in each NACE division)

	Value added					Employment				
	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed
Mining of coal and lignite; extraction of peat (NACE 10)	1.4	1.7	4.8	8.0	92.0	0.6	1.5	3.3	5.3	94.7
Extraction of crude petroleum and natural gas (NACE 11)	13.7	3.2	17.9	34.7	65.3	1.8	3.8	16.7	22.4	77.6
Mining of uranium and thorium ores (NACE 12)	0.0	0.0	:	:	:	0.0	0.0	5.7	5.7	94.3
Mining of metal ores (NACE 13)	0.2	0.6	6.3	7.2	92.8	0.9	1.8	6.8	9.5	90.5
Other mining and quarrying (NACE 14)	11.8	36.1	27.5	75.5	24.5	15.5	36.2	27.3	79.0	21.0
Electricity, gas, steam and hot water supply (NACE 40)	5.1	3.6	10.6	19.2	80.8	1.7	4.1	11.0	16.8	83.2
Collection, purification and distribution of water (NACE 41)	6.5	9.5	18.8	34.7	65.3	4.6	9.0	23.1	36.7	63.3
Construction (NACE 45)	:	:	17.6	:	:	:	:	15.5	:	:

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics broken down by size classes)

Table 1.16

Size-class breakdown of value added and employment in manufacturing activities, EU-25, 2001
 (% share of size class in each NACE division)

	Value added					Employment				
	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed
Food products and beverages (NACE 15)	8.8	15.1	23.3	47.2	52.8	16.4	20.6	24.3	61.3	38.7
Tobacco products (NACE 16)	0.2	12.1	6.2	18.5	81.5	0.4	2.1	11.0	13.5	86.5
Textiles (NACE 17)	9.8	23.8	35.3	69.0	31.0	12.7	23.6	32.4	68.7	31.3
Clothing (NACE 18)	17.4	28.4	27.3	73.1	26.9	20.8	30.5	26.7	78.0	22.0
Leather (NACE 19)	17.5	30.3	28.6	76.4	23.6	19.4	33.8	27.0	80.1	19.9
Wood (NACE 20)	22.2	31.3	25.3	78.7	21.3	32.5	30.2	21.5	84.2	15.8
Pulp and paper (NACE 21)	2.6	9.5	24.3	36.3	63.7	4.7	15.3	31.0	50.9	49.1
Publishing and printing (NACE 22)	14.0	22.7	23.9	60.7	39.3	21.8	25.5	23.7	71.0	29.0
Coke, refined petroleum products, nuclear fuels (NACE 23)	0.5	3.1	4.1	7.6	92.4	1.0	4.0	6.4	11.3	88.7
Chemicals (NACE 24)	1.3	5.6	16.5	23.5	76.5	3.0	8.6	20.8	32.4	67.6
Rubber and plastics (NACE 25)	5.1	18.4	32.5	56.0	44.0	7.9	21.7	32.4	62.0	38.0
Other non-metallic mineral products (NACE 26)	7.1	18.2	26.4	51.7	48.3	13.9	21.7	26.4	61.9	38.1
Basic metals (NACE 27)	1.6	7.5	19.7	28.8	71.2	2.5	8.9	20.7	32.1	67.9
Fabricated metal products (NACE 28)	14.1	34.4	28.9	77.4	22.6	21.2	33.9	27.0	82.2	17.8
Machinery and equipment (NACE 29)	6.3	17.1	27.4	50.8	49.2	8.8	19.4	28.2	56.5	43.5
Office machinery and computers (NACE 30)	5.4	7.4	13.4	26.3	73.7	7.0	9.2	16.3	32.5	67.5
Electrical machinery and apparatus (NACE 31)	4.4	11.8	19.7	35.8	64.2	7.5	13.5	20.8	41.8	58.2
Radio, TV and communication equipment (NACE 32)	3.7	7.0	12.4	23.0	77.0	5.3	8.6	15.3	29.2	70.8
Medical, precision and optical equipment (NACE 33)	10.7	17.9	24.0	52.6	47.4	18.2	22.7	24.0	64.9	35.1
Motor vehicles (NACE 34)	0.9	3.1	8.1	12.0	88.0	1.5	4.7	11.1	17.3	82.7
Other transport equipment (NACE 35)	2.7	5.3	10.6	18.6	81.4	4.8	7.9	13.7	26.3	73.7
Furniture and other manufacturing (NACE 36)	17.9	25.9	28.2	72.0	28.0	24.7	27.1	25.3	77.1	22.9
Recycling (NACE 37)	21.5	41.0	25.9	88.5	11.5	26.7	38.9	25.2	90.7	9.3

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics broken down by size classes)

Tables 1.15 to 1.17 provide more detailed information (at the NACE division level) as regards the proportion of EU-25 value added and employment accounted for by each enterprise size class. For non-manufacturing industrial activities in the EU-25, large enterprises (with 250 or more persons employed) usually accounted for a very high proportion of activity in 2001. Their share of

value added and employment was in excess of 50 %, except for other mining and quarrying (NACE Division 14).

Within manufacturing activities, large enterprises in the EU-25 accounted for in excess of 50 % of the value added generated in 12 of the 24 NACE divisions for which information is presented in Table 1.16. There were particularly

high shares reported for the manufacture of coke, refined petroleum products and nuclear fuel (NACE Division 23), the manufacture of motor vehicles trailers and semi-trailers (NACE Division 34), the manufacture of tobacco products (NACE Division 16), and the manufacture of other transport equipment (NACE Division 35), where large enterprises generated at least 80 % of total value added.

Table 1.17

Size-class breakdown of value added and employment in non-financial services, EU-25, 2001
 (% share of size class in each NACE division)

	Value added					Employment				
	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed	1 to 9 persons employed	10 to 49 persons employed	50 to 249 persons employed	SME total <250 persons employed	250 or more persons employed
Motor trades (NACE 50)	28.7	30.6	21.6	80.9	19.1	43.3	29.8	16.2	89.3	10.7
Wholesale trade (NACE 51)	24.0	29.5	23.0	76.5	23.5	33.8	28.5	19.8	82.1	17.9
Retail trade (NACE 52)	31.8	16.2	8.2	56.2	43.8	43.1	14.6	7.1	64.7	35.3
Hotels and restaurants (NACE 55)	38.0	24.6	12.8	75.4	24.6	45.6	24.7	10.4	80.6	19.4
Land transport (NACE 60)	22.2	21.5	14.2	58.0	42.0	28.4	20.0	12.9	61.3	38.7
Water transport (NACE 61)	21.7	20.1	:	:	:	14.0	17.7	:	:	:
Air transport (NACE 62)	1.7	2.8	:	:	:	1.3	2.1	:	:	:
Supporting transport activities; travel agencies (NACE 63)	12.4	18.3	18.6	49.3	50.7	14.8	19.1	21.1	55.1	44.9
Post and telecommunications (NACE 64)	1.8	1.5	1.6	4.9	95.1	3.0	3.1	4.5	10.6	89.4
Activities auxiliary to financial intermediation (NACE 67)	:	:	:	:	:	:	:	:	:	:
Real estate (NACE 70)	:	:	:	:	:	:	:	:	:	:
Renting (NACE 71)	29.8	19.0	22.6	71.4	28.6	36.4	23.5	15.7	75.6	24.4
Computer services (NACE 72)	20.6	17.3	20.1	58.1	41.9	31.0	21.2	19.5	71.7	28.3
Research and development (NACE 73)	7.6	11.1	28.3	46.9	53.1	11.7	13.0	24.6	49.3	50.7
Other business activities (NACE 74)	30.9	20.9	17.8	69.6	30.4	29.8	17.4	16.4	63.6	36.4

Source: Eurostat, Structural Business Statistics (Annual enterprise statistics broken down by size classes)

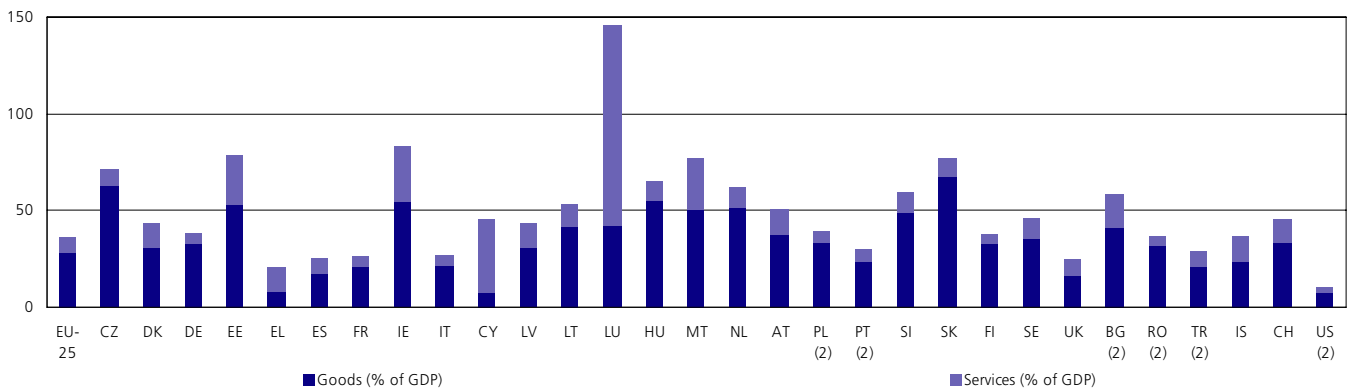
Large enterprises almost exclusively recorded the highest apparent labour productivity when comparing across enterprise size classes within manufacturing, as among the 24 NACE divisions for which information is available, the only exceptions were for the manufacture of tobacco products, and the manufacture of textiles (NACE Division 17).

Table 1.17 shows a similar set of information for the NACE divisions within the EU-25's non-financial services sector, where there was a more even distribution of activity across the different enterprise size classes. In only 3 of the 11 divisions for which information is available did large enterprises generate in excess of 50 % of total value added: supporting and auxiliary transport activities and travel agencies (NACE Division 63), post and telecommunications (NACE Division 64) and research and development (NACE Division 73). These activities, particularly post and telecommunications and the transport infrastructure management activities, are characterised as having increasing returns to scale economies, as well as being markets that

are still in the process of being deregulated and opened to wider competition. In the remaining eight NACE divisions where large enterprises did not generate a majority of the value added, it was common to find a pattern of the two highest proportions of value added being generated by micro enterprises and large enterprises. This may point to a contrast in the customer base of enterprises within each activity, with large multinational groups serving national and international clients, while very small enterprises co-exist in the same activity serving the local community. Within non-financial services, it was common to find that productivity increased as a function of the average size of the enterprise. This was particularly the case for distributive trades (NACE Divisions 50 to 52) and computer and related services (NACE Division 72). Other business activities (NACE Division 74) was the only sector to report small enterprises (with 10 to 49 persons employed) with the highest apparent labour productivity.

Figure 1.17

Exports of goods and services as a proportion of GDP, 2004 (%) (1)



(1) Belgium, not available.

(2) Forecast.

Source: Eurostat, National accounts (Exports and imports by Member States of the EU/third countries)

EXTERNAL TRADE

The global nature of economic relations is further demonstrated by data for external trade, where there has been rapid growth in the past few decades. While this was initially founded upon trade for goods, more recently there has been a rapid expansion in services trade, a trend which may be expected to continue as service sectors become increasingly liberalised and are further incorporated into trade agreements.

The data presented in Figure 1.17 shows information from national accounts. Exports of goods and services were the equivalent of 36.0 % of the EU-25's GDP in 2004. Note that these figures include intra-EU exports (in other words, exports destined for another Member State).

Generally, the smaller a country, the greater one may imagine its export and import dependency. This hypothesis is confirmed when looking at the data by Member State, as the lowest ratios of exported goods and services relative to GDP were often recorded in the largest Member States, although these rates were also relatively low in Greece and Finland.

Trade in services is subject to the General Agreement on Trade in Services (GATS), which concerns the opening-up of trade in services (as opposed to deregulating services) through allowing foreign enterprises to supply services within a territory, alongside national suppliers. Figure 1.17 shows that exports of goods usually accounted for a higher proportion of total trade than services. Goods exported by the EU-25 were valued 3.4 times higher than services that were exported in 2004. Greece, Cyprus and Luxembourg were the only Member States to report that services accounted for a higher share of exports than goods. Ireland, Malta and the United Kingdom were the only other Member States where exports of services were at least 50 % of the export value of goods. The relatively high levels of services' exports in these Member States could often be attributed to either well-developed transport/tourism or financial services sectors.

Data on external trade from the Comext database provides information that can be compiled according to the classification of products by activity (CPA). Note that although agricultural, hunting and forestry products (CPA Section A) and fish products (CPA Section B) are not covered by any of the specific chapters within this publication, data on these products are included in the aggregated information presented below. Note also that information from Comext can be divided between intra and extra-EU trade flows. As such, the data presented for the EU-25 aggregate refers to extra-EU trade only (in other words, the EU-25 is treated as a single trading block), while total trade flows are used for the 25 Member States (where trade flows include both other Member States and non-Community countries).

Between 1999 and 2004, the total value of goods (as defined by CPA Sections A to E) exported from the EU-25 rose from EUR 689 billion to EUR 968 billion in current price terms. This was equivalent to a net increase of EUR 279 billion, or average growth of 7.0 % per annum. Extra-EU imports rose from EUR 746 billion to EUR 1 029 billion during the same period, with an average rate of growth that was slightly lower (6.6 % per annum) than that recorded for exports. Nevertheless, the overall value of imports rose by EUR 283 billion during the period considered, resulting in almost no change to the EU-25's trade balance for goods between 1999 and 2004.

The composition of goods exported from the EU-25 was heavily weighted in favour of manufactured products (CPA Section D), which accounted for 90.9 % of the total in 2004. This was lower than that recorded in 1999, when manufactured goods had accounted for 92.3 % of exports from the EU-25. While manufactured products also accounted for the majority of goods imported into the EU-25, there was a stronger reduction in their relative importance, which fell from 80.8 % of the total in 1999 to 74.9 % by 2004. This reduction was almost entirely accounted for by an increase in imports of mining and quarrying products, which include crude oil and natural gas (CPA Section C), whose share of total imports rose to 17.0 % in 2004, a 5.0 percentage point gain on 1999.

Table 1.18
EU-25 external trade flows of manufactured products, 2004

	Exports (EUR million)	Imports (EUR million)	Trade balance (EUR million)	Cover ratio (%)	Share of manufactured exports (%)	Share of manufactured imports (%)
Manufactured products (CPA Section D)	879 804	770 977	108 827	114.1	100.0	100.0
Food products, beverages and tobacco (CPA Subsection DA)	46 576	40 221	6 354	115.8	5.3	5.2
Textiles and textile products (CPA Subsection DB)	33 808	68 775	-34 967	49.2	3.8	8.9
Leather and leather products (CPA Subsection DC)	11 894	17 828	-5 935	66.7	1.4	2.3
Wood and wood products (CPA Subsection DD)	7 672	9 070	-1 398	84.6	0.9	1.2
Pulp, paper, recorded media, printing services (CPA Subsection DE)	18 538	11 819	6 719	156.8	2.1	1.5
Coke, refined petroleum products and nuclear fuel (CPA Subsection DF)	25 080	29 371	-4 291	85.4	2.9	3.8
Chemicals and man-made fibres (CPA Subsection DG)	144 437	87 355	57 082	165.3	16.4	11.3
Rubber and plastic products (CPA Subsection DH)	21 441	16 974	4 467	126.3	2.4	2.2
Other non-metallic mineral products (CPA Subsection DI)	15 665	8 133	7 532	192.6	1.8	1.1
Basic metals and fabricated metal products (CPA Subsection DJ)	56 184	63 420	-7 236	88.6	6.4	8.2
Machinery and equipment n.e.c. (CPA Subsection DK)	140 066	61 167	78 899	229.0	15.9	7.9
Electrical and optical equipment (CPA Subsection DL)	170 171	221 490	-51 318	76.8	19.3	28.7
Transport equipment (CPA Subsection DM)	161 983	101 793	60 190	159.1	18.4	13.2
Other manufactured goods n.e.c. (CPA Subsection DN)	26 290	33 561	-7 272	78.3	3.0	4.4

Source: Eurostat, Comext

Table 1.18 shows, in more detail, the composition of external trade flows of manufactured products in 2004. The highest proportion of EU-25 manufactured exports (at the CPA subsection level) - 19.3 % - was for electrical and optical equipment (Subsection DL). The cumulative share of the four largest EU-25 export sectors was 70.1 %, the other three product groupings being transport equipment (Subsection DM), chemicals, chemical products and man made-fibres (Subsection DG), and machinery and equipment n.e.c. (Subsection DK). Export specialisation ratios relative to the EU-25 average are presented in Table 1.19 (overleaf), detailing the three most specialised product groupings for exports in each of the Member States.

Electrical and optical equipment also recorded the highest share of imports, accounting for more than one quarter (28.7 %) of the EU-25's manufactured imports in 2004. The cumulative share of the top four import categories was 62.2 %, some 7.9 points lower than the corresponding ratio for exports. The top three categories in the rankings for imports and exports were identical, while machinery and equipment n.e.c. was only the sixth most important import category, replaced by textiles and textile products (CPA Subsection DB) as the fourth most important import category.

With such a high share of manufactured imports, it was perhaps not surprising to find that in 2004 the largest trade deficit in the EU-25 across CPA subsections was registered for electrical and optical equipment (EUR 51.3 billion). The only other category to record a trade deficit in excess of EUR 10 billion was textiles and textile products (EUR 35.0 billion). On the other hand, surpluses in excess of EUR 50 billion were posted for machinery and equipment n.e.c., transport equipment, and chemicals, chemical products and man made-fibres.

The most important contribution to EU-25 imports and exports was made by Germany, accounting for 24.5 % of all goods exported in 2004 and for 19.5 % of imports. Germany also accounted for the highest trade surplus for goods among the Member States (EUR 157 billion). France (12.1 %) had the second largest level of exports, followed by the Netherlands, Italy, the United Kingdom and Belgium, all accounting for between 9.6 % and 8.2 % of exported goods (see Table 1.20). On the import side, 12.7 % of the goods imported were imported into France, just ahead of the United Kingdom (12.6 %), while Italy, the Netherlands and Belgium recorded shares within the range of 9.5 % to 7.8 %. Note that Belgium and the Netherlands, in particular, display relatively high proportions of exports and imports, and that this may, in part, result from the transit of goods across Europe, with wide disparities between exporters/ importers and producers/consumers.

Aside from the German trade surplus, only six other Member States posted positive balances for goods in 2004: they were Ireland, Belgium and the neighbouring Netherlands, and the Nordic Member States of Denmark, Finland and Sweden. The largest deficits were recorded by the United Kingdom (at EUR 93.7 billion in 2004) and the three southern Member States of Spain, Greece and Portugal, while France and Poland also recorded deficits in excess of EUR 10 billion. Note that all of the Member States that joined the EU in 2004 recorded trade deficits for goods in 2004.

Table 1.19
Export specialisation ratios relative to the EU-25, top three manufacturing CPA Groups, 2004

BE	CZ	DK	DE	EE
Jewellery and related articles (CPA 36.2)	Coke oven products (CPA 23.1)	Processed and preserved fish and fish products (CPA 15.2)	Steam generators, except central heating hot water boilers (CPA 28.3)	Wood, sawn, planed or impregnated (CPA 20.1)
Basic chemicals (CPA 24.1)	Printing services and services related to printing (CPA 22.2)	Meat and meat products (CPA 15.1)	Machine-tools (CPA 29.4)	Furs; articles of fur (CPA 18.3)
Pharmaceuticals, medicinal chemicals and botanical products (CPA 24.4)	Wooden containers (CPA 20.4)	Builders' joinery and carpentry, of wood (CPA 20.3)	Other transport equipment n.e.c. (CPA 35.5)	Made-up textile articles, except apparel (CPA 17.4)
EL	ES	FR	IE	IT
Furs; articles of fur (CPA 18.3)	Ceramic tiles and flags (CPA 26.3)	Aircraft and spacecraft (CPA 35.3)	Medical and surgical equipment and orthopaedic appliances (CPA 33.1)	Leather (CPA 19.1)
Cement, lime and plaster (CPA 26.5)	Monumental or building stone and articles thereof (CPA 26.7)	Luggage, handbags and the like; saddlery and harness (CPA 19.2)	Other chemical products (CPA 24.6)	Ceramic tiles and flags (CPA 26.3)
Processed and preserved fruit and vegetables (CPA 15.3)	Animal and vegetable oils and fats (CPA 15.4)	Beverages (CPA 15.9)	Office machinery and computers (CPA 30.0)	Monumental or building stone and articles thereof (CPA 26.7)
CY	LV	LT	LU	HU
Cement, lime and plaster (CPA 26.5)	Wood, sawn, planed or impregnated (CPA 20.1)	Wooden containers (CPA 20.4)	Basic iron and steel and ferro-alloys (ECSC) (CPA 27.1)	Television and radio transmitters; apparatus for line telephony and telegraphy (CPA 32.2)
Tobacco products (CPA 16.0)	Wooden containers (CPA 20.4)	Refined petroleum products (CPA 23.2)	Office machinery and computers (CPA 30.0)	Television and radio receivers; sound or video recording or reproducing apparatus and associated goods (CPA 32.3)
Weapons and ammunition (CPA 29.6)	Builders' joinery and carpentry, of wood (CPA 20.3)	Wood, sawn, planed or impregnated (CPA 20.1)	Other textiles (CPA 17.5)	Insulated wire and cable (CPA 31.3)
MT	NL	AT	PL	PT
Electronic valves and tubes and other electronic components (CPA 32.1)	Tobacco products (CPA 16.0)	Railway and tramway locomotives and rolling-stock (CPA 35.2)	Coke oven products (CPA 23.1)	Other products of wood; articles of cork, straw and plaiting materials (CPA 20.5)
Printing services and services related to printing (CPA 22.2)	Office machinery and computers (CPA 30.0)	Builders' joinery and carpentry, of wood (CPA 20.3)	Wooden containers (CPA 20.4)	Made-up textile articles, except apparel (CPA 17.4)
Games and toys (CPA 36.5)	Prepared animal feeds (CPA 15.7)	Wood, sawn, planed or impregnated (CPA 20.1)	Ships and boats (CPA 35.1)	Footwear (CPA 19.3)
SI	SK	FI	SE	UK
Domestic appliances n.e.c. (CPA 29.7)	Bodies (coachwork) for motor vehicles; trailers and semi-trailers (CPA 34.2)	Wood, sawn, planed or impregnated (CPA 20.1)	Wood, sawn, planed or impregnated (CPA 20.1)	Books, newspapers and other printed matter and recorded media (CPA 22.1)
Builders' joinery and carpentry, of wood (CPA 20.3)	Cement, lime and plaster (CPA 26.5)	Pulp, paper and paperboard (CPA 21.1)	Pulp, paper and paperboard (CPA 21.1)	Nuclear fuel (CPA 23.3)
Furniture (CPA 36.1)	Man-made fibres (CPA 24.7)	Television and radio transmitters; apparatus for line telephony and telegraphy (CPA 32.2)	Television and radio transmitters; apparatus for line telephony and telegraphy (CPA 32.2)	Aircraft and spacecraft (CPA 35.3)

Source: Eurostat, Comext

Figure 1.18 shows the destination of EU-25 exports of goods in 1999 and 2004. While the value of exported goods to the United States rose from EUR 187 billion to EUR 234 billion, the relative share of the exports to the United States declined from 27.1 % to 22.7 %. The United States nevertheless remained by far the most important export destination for the EU-25, as the next most important export partner was Switzerland, with a 7.3 % share in 2004. China moved from being the sixth most important export partner of the EU-25 in 1999 to become the third most important by 2004 (4.7 %). During the last five years for which data are available, EU-25 exports became less concentrated among other industrialised economies, as the EU-25's trade relations expanded to a wider variety of partners, as witnessed by the decrease in the cumulative share of the five most important EU-25 export markets which fell from 48.0 % of total exports in 1999 to 43.4 % by 2004 (with the relative share of exports to the United States, Japan, Switzerland and Norway all falling).

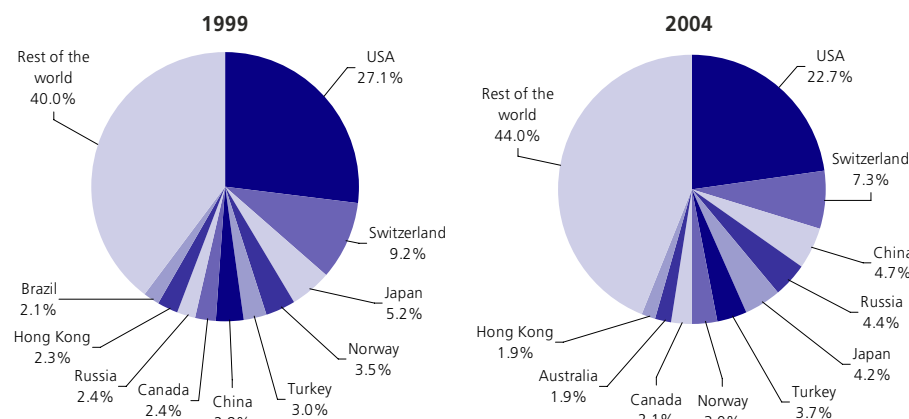
A similar set of information is shown in Figure 1.19 for the origin of EU-25 imports. The value of imported goods from the United States fell from EUR 165 billion to EUR 158 billion between 1999 and 2004. As a result, the position of the United States as the main origin of EU-25 imports became threatened, as its share of imports was reduced by 6.8 percentage points to account for 15.3 % of total imports in 2004. China became the second largest trading partner of the EU-25, with a 12.3 % share of imported goods in 2004, having moved from being the fourth most important origin of imports in 1999 (gaining 5.3 percentage points in its share of EU-25 imports), after a 75 % increase in Chinese exports to the EU-25. Although Chinese imports are often thought to be limited to labour-intensive consumer goods, with textiles and clothing products the most documented, there has also been a rapid increase in the level of imports of technology-intensive and knowledge-based products, such as electronics, computers and office equipment. There was a similar, if less spectacular pattern for Russian imports (in particular of oil and natural gas), which jumped from being the fifth most important origin of EU-25 imports in 1999 to become the third most important by 2004 (gaining 3.2 percentage points). Japan and Switzerland moved in the opposite direction, from being the second and third most important import partners of the EU-25 to become the fourth and fifth placed countries in the ranking by 2004.

Table 1.20
External trade of goods in the Member States, 2004

	Exports		Imports		Trade balance	
	(EUR million)	Share of EU-25 (%)	(EUR million)	Share of EU-25 (%)	(EUR million)	Cover ratio (%)
BE	246 410	8.2	229 480	7.8	16 930	107.4
CZ	55 195	1.8	55 881	1.9	-685	98.8
DK	61 971	2.1	54 794	1.9	7 177	113.1
DE	733 387	24.5	576 353	19.5	157 034	127.2
EE	4 795	0.2	6 750	0.2	-1 955	71.0
EL	12 225	0.4	42 283	1.4	-30 058	28.9
ES	143 586	4.8	200 424	6.8	-56 838	71.6
FR	360 767	12.1	374 312	12.7	-13 545	96.4
IE	83 834	2.8	48 759	1.6	35 075	171.9
IT	280 692	9.4	282 205	9.5	-1 513	99.5
CY	762	0.0	4 423	0.1	-3 661	17.2
LV	3 223	0.1	5 704	0.2	-2 481	56.5
LT	7 451	0.2	9 875	0.3	-2 424	75.5
LU	13 063	0.4	16 116	0.5	-3 052	81.1
HU	44 101	1.5	47 698	1.6	-3 597	92.5
MT	2 003	0.1	2 950	0.1	-947	67.9
NL	287 955	9.6	256 717	8.7	31 238	112.2
AT	95 165	3.2	96 395	3.3	-1 230	98.7
PL	60 272	2.0	72 166	2.4	-11 894	83.5
PT	28 770	1.0	44 174	1.5	-15 404	65.1
SI	12 727	0.4	13 825	0.5	-1 099	92.1
SK	22 146	0.7	23 692	0.8	-1 546	93.5
FI	49 458	1.7	41 356	1.4	8 101	119.6
SE	98 694	3.3	80 062	2.7	18 632	123.3
UK	278 851	9.3	372 592	12.6	-93 741	74.8
BG	7 988	~	11 612	~	-3 624	68.8
RO	18 935	~	26 281	~	-7 346	72.0
TR	50 511	~	78 231	~	-27 720	64.6

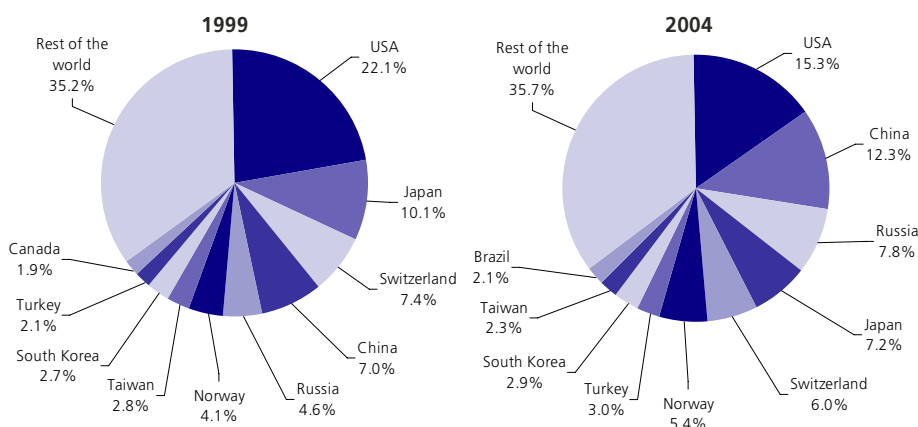
Source: Eurostat, Comext

Figure 1.18
Destination of EU-25 exports (% share of total exports)



Source: Eurostat, Comext

Figure 1.19
Origin of EU-25 imports (% share of total imports)



Source: Eurostat, Comext

1.5: DEVELOPMENTS OVER TIME – A NATIONAL ACCOUNTS OVERVIEW
EVOLUTION OF GDP

Figure 1.20 shows the evolution of GDP in constant prices between 1995 and 2005. This general pattern of economic growth should be considered when reading the sectoral chapters that follow this overview chapter, as growth trends within specific industries often tend to reflect the general cycle, whereas in some specific cases there are sector-specific phenomena that result in a different evolution. There was a fairly smooth development to GDP in the EU-25, with growth during the period 1995 to 2000 somewhat faster than that recorded between 2001 and 2005. Having slowed between 2001 and 2003, there were signs of an increase in the rate at which GDP growth was progressing in the EU-25 from 2004 onwards.

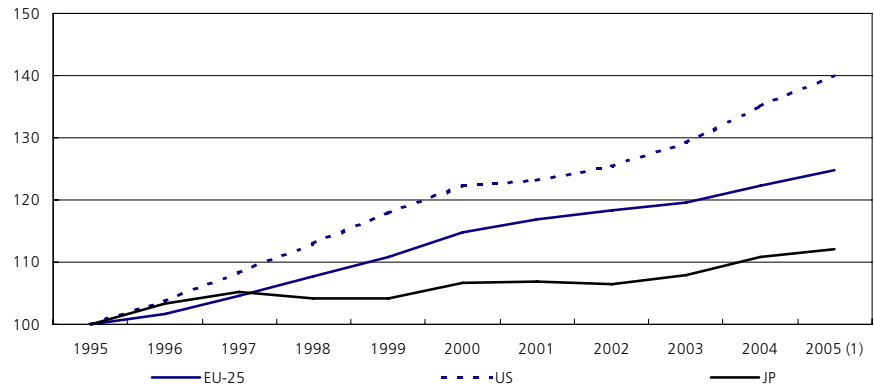
The evolution of constant price GDP followed a similar evolution in the United States to that seen in the EU-25, although GDP growth in the United States was faster than in the EU-25 and Japan over the period covered. Having posted rapid growth during the period 1995 to 2000, there was a slowdown in the pace of economic growth in the United States between 2000 and 2002, since when growth returned to rates that were similar to those recorded during the second half of the 1990s. GDP in Japan followed a somewhat different pattern, as it initially expanded (during the period 1995 to 1997) at a faster pace than in the EU-25. However, the subsequent period through to 2002 was characterised by recession or relatively low rates of economic expansion. As with the other two Triad economies, there were some signs of an increase in the pace at which GDP was growing in Japan from 2003 onwards.

EVOLUTION OF CONSUMER PRICES

An important development within many industrialised economies in recent years has been the generally low level of price inflation, as shown in Figure 1.21. The average annual growth rate of the harmonised index of consumer prices for the EU-25 was 2.4 % between 1993 and 2004. There was a general downward trend to the evolution of price growth, which slowed from a high of 3.4 % growth in 1993 to 1.6 % by 1999. Despite the fact that rapid economic expansion in 2000 was reflected in somewhat higher inflation in both 2000 and 2001, thereafter prices rose by around 2 % per annum during the period 2002 to 2004.

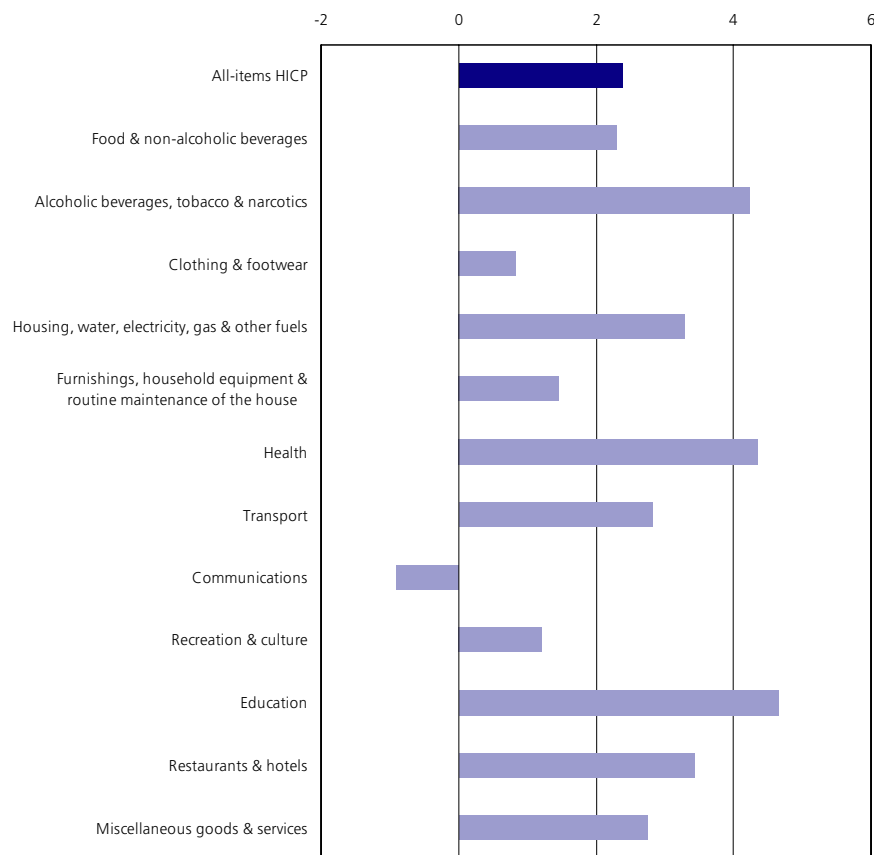
An analysis using a breakdown by household expenditure categories indicates that the most rapid consumer price increases were registered for education and health services, as well as

Figure 1.20
GDP in constant 1995 prices (1995=100)



(1) Forecasts.
Source: Eurostat, National accounts (GDP and main components - constant prices)

Figure 1.21
Average annual growth rates of harmonised indices of consumer prices, EU-25, 1993-2004 (%)



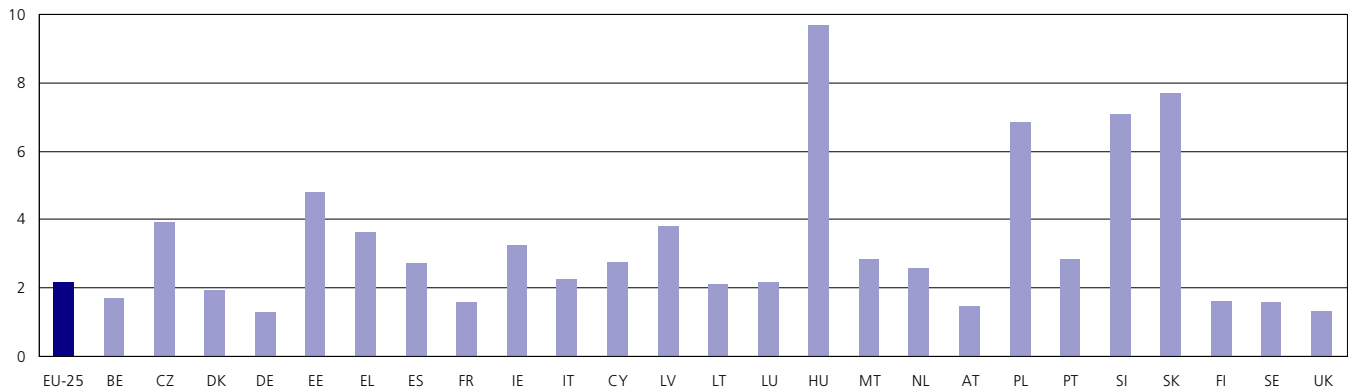
Source: Eurostat, Prices (Harmonized indices of consumer prices)

alcoholic beverages and tobacco, where prices are often controlled to some degree by governments. Somewhat slower growth was recorded for housing, water, electricity, gas and other fuels, transport, restaurants and hotels, and miscellaneous goods and services, while prices rose at a slower pace for some other

necessity items such as food and non-alcoholic beverages, furnishings, household equipment and routine house maintenance, as well as clothing and footwear. Communications was the only heading where prices fell, with price reductions in the EU-25 for six out of the eight years during the period 1997 to 2004.

Figure 1.22

Average annual growth rates of the all-items harmonised index of consumer prices, 1996-2004 (%)



Source: Eurostat, Prices (Harmonized indices of consumer prices)

Figure 1.22 shows the evolution of the all-items harmonised index of consumer prices for the Member States. There was a pattern of higher price inflation in a number of the Member States that joined the EU in 2004, with average annual price growth in excess of 6 % between 1996 and 2004 in Poland, Slovenia, Slovakia and Hungary. The lowest average price increases between 1996 and 2004 were reported in two of the largest Member States, with prices rising on average by 1.3 % per annum in Germany and the United Kingdom.

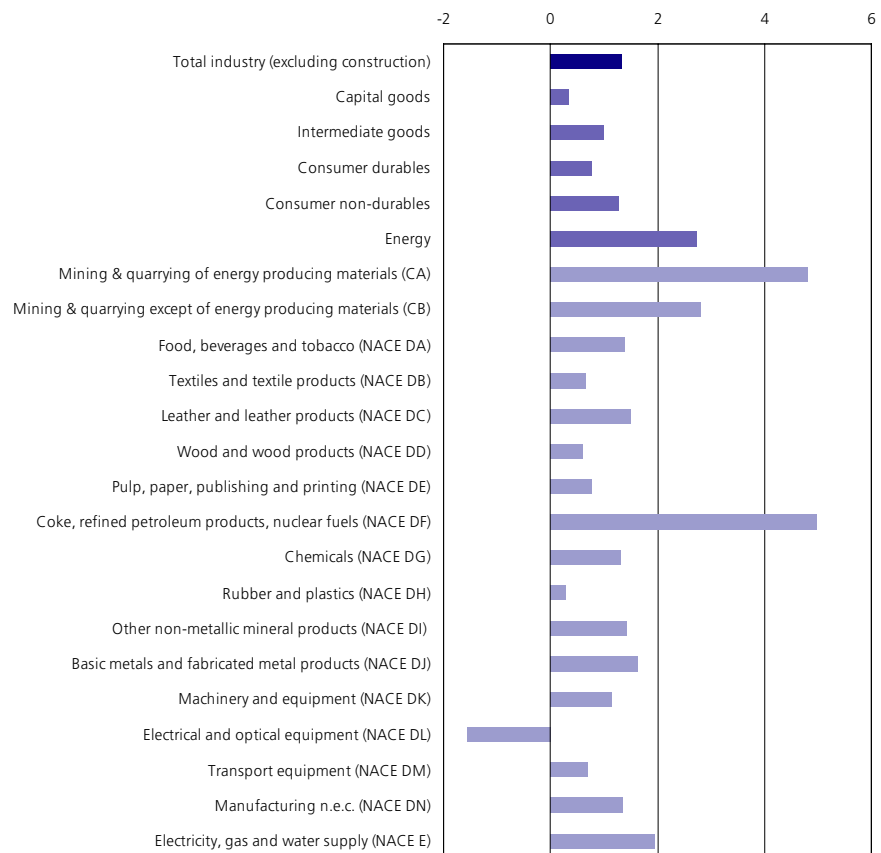
EVOLUTION OF INDUSTRIAL DOMESTIC OUTPUT PRICES

Short-term business statistics (STS) provide information on industrial domestic output prices. These generally rose at a relatively modest pace during much of the 1990s and through to 2004, see Figure 1.23. Inflationary pressures were particularly low for capital goods, consumer durables and intermediate goods, while price increases were somewhat higher for consumer non-durables and, in particular, energy. The most rapid year on year price increases (4.8 %) were recorded in 2000, at the end of the last sustained period of output growth. Output price inflation was modest between 2001 and 2003, although there were signs of higher price increases in 2004, fuelled almost entirely by the rising price of energy (up 5.6 %) and downstream intermediate goods (up 3.7 %).

The highest price increases between 1996 and 2004 were recorded for a number of primary industries or branches with a relatively low level of technology, including mining or energy related activities, basic metals and leather products. Below average price increases were generally recorded for branches that had reported some of the highest output growth, including rubber and plastics and transport equipment, while the price index of electrical and optical equipment fell.

Figure 1.23

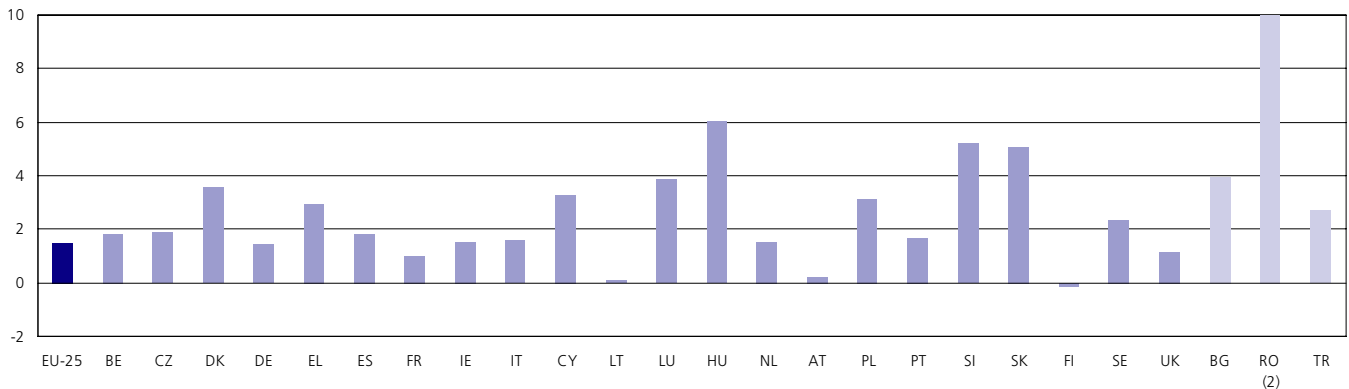
Gross domestic output price indices, average annual growth rates, EU-25, 1996-2004 (%)



Source: Eurostat, Short-term Business Statistics (Producer price indices)

Figure 1.24

Gross domestic output price indices, total industry (excluding construction), average annual growth rates, 2000-2004 (%) (1)



(1) Estonia, Latvia and Malta, not available.

(2) 25.4 %.

Source: Eurostat, Short-term Business Statistics (Producer price indices)

There was a wide variation in industrial output price developments across the EU-25 between 2000 and 2004. Three of the four largest Member States generally reported output price inflation somewhat below average, although Italy was slightly above, see Figure 1.24. Finland (the only Member State where industrial output prices fell), Lithuania, and Austria were the only

other Member States where price inflation was below the EU-25 average ⁽¹⁶⁾.

⁽¹⁶⁾ Estonia, Latvia and Malta, not available.

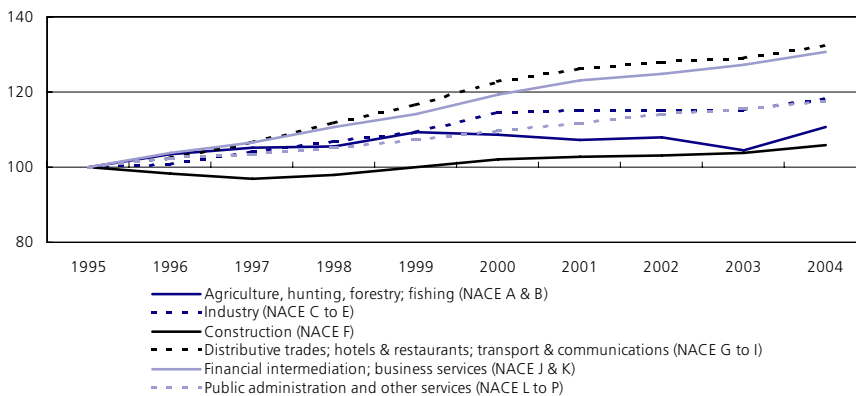
SIX BROAD BRANCHES OF ECONOMIC ACTIVITY

The evolution of EU-25 value added between 1995 and 2004 is shown for the six branches in Figure 1.25. Growth was apparent for each branch and ranged from an average of 0.6 % per annum for construction to upwards of 3.0 % per annum for distributive trades, hotels and restaurants, transport and communications (NACE Sections G to I), and financial intermediation and business services (NACE Sections J and K). As with the overall aggregate of GDP, there was generally more rapid growth during the period 1995 to 2000 than during the period thereafter; this was particularly true for agriculture, hunting, forestry and fishing, and for industry, although the construction sector did report value added rising at a faster pace between 2000 and 2004.

Between 1995 and 2004 the number of persons employed in the EU-25 rose from 184.2 million to 200.5 million, equivalent to an average increase of 0.9 % per annum. For reference, the EU-25 population grew by 10.5 million persons over the same period, at an average growth rate of 0.3 % per annum.

Figure 1.25

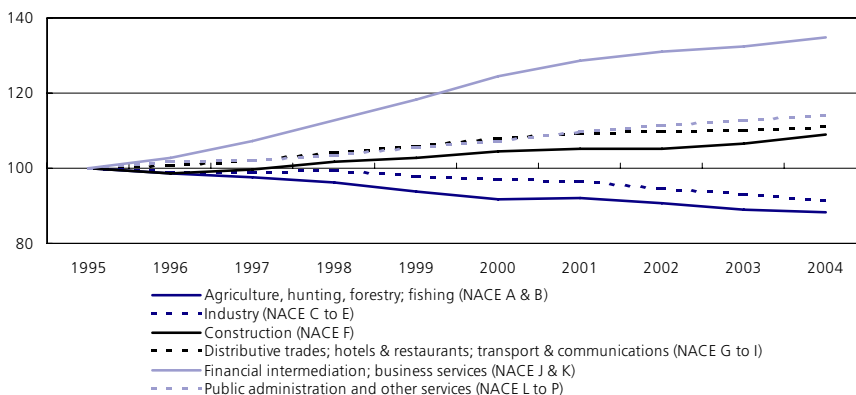
Breakdown of gross value added at constant prices, EU-25 (1995=100)



Source: Eurostat, National accounts (Breakdown by 6 branches - Macroeconomic aggregates at constant prices)

Figure 1.26

Breakdown of employment, EU-25 (1995=100)



Source: Eurostat, National accounts (Breakdown by 6 branches - Employment data)

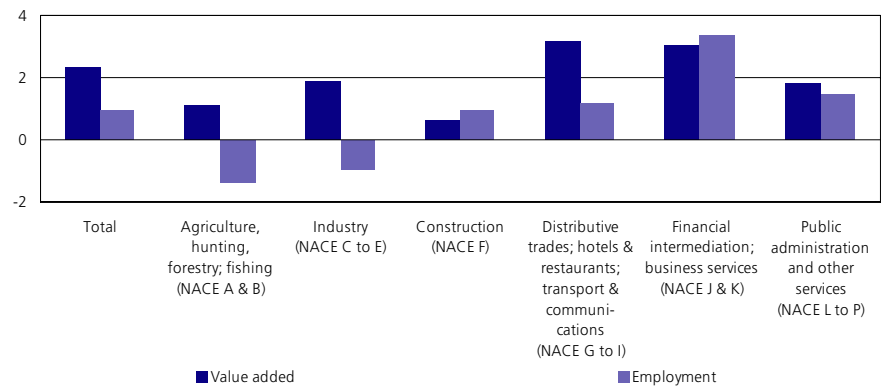
LABOUR PRODUCTIVITY

The difference between growth rates of employment and value added are directly related to productivity ratios. Figure 1.27 shows that EU-25 value added grew at an average rate of 2.3 % per annum during the period 1995 to 2004, while employment expanded by a lower rate of 0.9 % per annum. There was a resulting increase in apparent labour productivity (value added per person employed) from EUR 34 508 per person employed in 1995 to EUR 39 055 per person employed in 2004.

The gap between value added and employment growth rates was at its widest for industry, on average 2.9 percentage points per annum. Although apparent labour productivity increased at its most rapid pace within the industrial economy, it is important to note that this was achieved through net job losses, rather than rapid growth in added value. In contrast, financial intermediation and business services, which was the branch with the highest level of apparent labour productivity in the EU-25 at EUR 68 991 per person employed in 2004, saw its apparent labour productivity decline slightly between 1995 and 2004. The slight reduction was a result of rapid employment growth (3.4 % per annum) which exceeded that recorded for value added (3.0 % per annum).

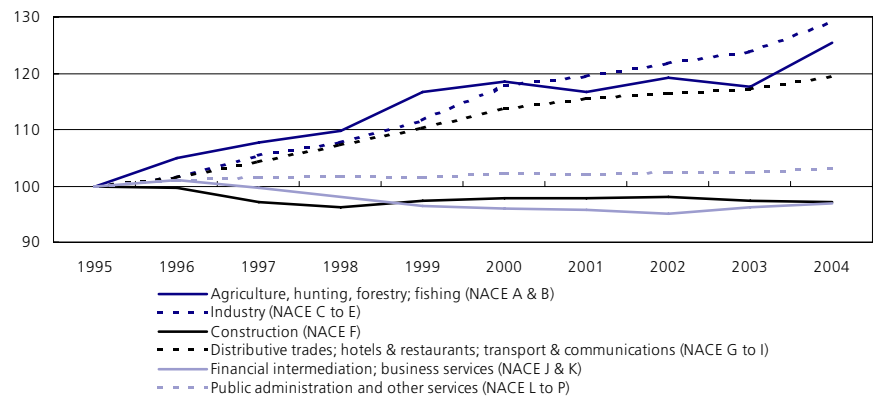
It is important to note that the data presented in Figure 1.28 does not provide any information on the level of labour productivity, but instead its evolution (in constant 1995 price terms) over time. The figure shows that three of the branches of the EU-25 economy reported considerably higher labour productivity growth, namely, industry, agriculture, hunting, forestry, and fishing, and distributive trades, hotels and restaurants, transport and communications; while there was little change in the level of apparent labour productivity in the remaining branches.

Figure 1.27
Average annual growth rates of value added at constant prices and employment, EU-25, 1995-2004 (%)



Source: Eurostat, National accounts (Breakdown by 6 branches - Macroeconomic aggregates at constant prices; Breakdown by 6 branches - Employment data)

Figure 1.28
Evolution of labour productivity, EU-25 (1995=100)



Source: Eurostat, National accounts (Breakdown by 6 branches - Macroeconomic aggregates at constant prices; Breakdown by 6 branches - Employment data)

1.6: THE BIRTH AND DEATH OF ENTERPRISES - BUSINESS DEMOGRAPHY

Entrepreneurship is often cited as one of the key elements for achieving the Lisbon objectives. It is generally accepted by most economists that the birth of new enterprises is likely to increase competitive pressure, and as such may force existing firms to improve their efficiency or drive inefficient ones out of the market. The entrepreneur, or new enterprise, may be seen as the key to disturbing market equilibrium, through the process of what has become known as 'creative destruction', a term employed by the economist Schumpeter. From an economic perspective, newly born enterprises should rationally be created in activities which have a relatively high level of domestic demand, where close proximity to consumers is a competitive advantage, where

market niches at local or regional levels exist, and where a relatively low level of concentration exists among incumbents; so-called 'pull factors'.

On the other hand, entrepreneurs may be pushed to start their own business, especially when alternative employment opportunities are limited. Newly born enterprises are potentially very important for employment creation. However, many new enterprises actually have no paid employees during the start-up phase, but instead a working owner (and/or unpaid family and friends). Therefore, newly born enterprises tend to be relatively small in size (as measured by their average number of employees) and employment creation rates

among newly born enterprises are usually significantly lower than enterprise birth rates.

Business demography data focus on so-called real enterprise births and deaths. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises, nor do they include entries into a sub-population resulting only from a change of activity.

In absolute terms, the majority of new enterprise births were concentrated in the activities of construction (NACE Section F), distributive trades (NACE Section G), and business services (NACE Section K, excluding Class 74.15), while particularly high enterprise

Table 1.21
Birth rates, 2002 (enterprise births as a proportion of the total number of enterprises) (1)

	Mining and quarrying (NACE C)	Manufacturing (NACE D)	Electricity, gas and water supply (NACE E)	Construction (NACE F)	Distributive trades (NACE G)	Hotels and restaurants (NACE H)	Transport and communications (NACE I)	Financial services (NACE J)	Business services (NACE K) (2)
BE (3)	2.2	4.4	4.5	6.2	5.7	7.9	8.4	9.3	10.1
CZ	3.9	8.5	5.4	:	10.3	:	7.6	5.7	11.9
DK (4)	9.9	6.0	0.4	9.0	8.7	8.1	8.3	7.9	11.7
DE	:	:	:	:	:	:	:	:	:
EE	8.8	8.9	3.8	:	11.9	:	9.2	34.1	12.6
EL	:	:	:	:	:	:	:	:	:
ES	5.9	6.3	8.1	12.6	8.0	10.0	5.8	10.6	11.5
FR	:	:	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:	:	:
IT	4.5	5.0	9.3	9.6	6.2	6.6	6.6	8.0	9.4
CY	:	:	:	:	:	:	:	:	:
LV	21.7	33.2	10.7	:	18.4	:	25.5	19.7	22.4
LT	8.1	9.9	13.8	:	9.7	:	8.9	15.6	12.2
LU	0.0	6.8	6.0	9.8	8.8	9.4	8.8	18.6	13.7
HU	10.1	10.7	7.0	:	11.6	:	20.4	23.0	15.0
MT	:	:	:	:	:	:	:	:	:
NL (4)	7.8	6.3	10.6	11.7	6.5	7.0	9.0	15.6	13.1
AT	:	:	:	:	:	:	:	:	:
PL	:	:	:	:	:	:	:	:	:
PT	6.5	5.8	5.4	7.3	5.3	4.1	9.2	4.4	6.6
SI	4.2	4.1	6.6	:	7.6	:	4.2	14.6	10.8
SK	7.9	13.2	2.8	:	14.4	:	10.7	15.2	19.4
FI	2.5	4.8	3.3	8.3	7.7	7.0	4.3	11.0	8.7
SE	2.1	4.5	3.4	6.0	5.5	7.3	4.3	4.4	7.2
UK (3)	14.0	6.8	14.1	8.0	7.5	11.5	9.9	7.9	10.3
Average (5)	4.1	5.7	3.6	10.1	6.9	8.2	6.1	10.4	10.8
RO	14.2	11.8	7.3	:	9.8	:	18.3	23.3	24.1
NO (4)	8.4	5.0	6.9	9.5	8.6	7.6	6.7	6.2	14.5

(1) Sole proprietorships are not included in the data for Portugal and Romania; in Estonia, only sole proprietorships with at least 20 employees are included; in Latvia, the exceptionally high birth rate of 2002 is due to the inclusion of natural persons and to difficulties of classification as regards the correct year of birth.

(2) NACE Section K, excluding NACE Class 74.15 (management activities of holding companies).

(3) 2000.

(4) 2001.

(5) 2001; average of the available data for the EU-25 Member States (composition changes for each activity).

Source: Eurostat, Structural Business Statistics (Business demography)

Table 1.22

Death rates, 2001 (enterprise deaths as a proportion of the total number of enterprises) (1)

	Mining and quarrying (NACE C)	Manufacturing (NACE D)	Electricity, gas and water supply (NACE E)	Construction (NACE F)	Distributive trades (NACE G)	Hotels and restaurants (NACE H)	Transport and communications (NACE I)	Financial services (NACE J)	Business services (NACE K) (2)
BE	:	:	:	:	:	:	:	:	:
CZ	5.8	8.6	4.8	:	13.7	:	9.2	12.9	11.3
DK (3)	6.8	7.6	1.7	7.5	10.6	9.2	10.1	10.3	11.0
DE	:	:	:	:	:	:	:	:	:
EE	0.0	9.1	6.0	:	12.8	:	8.8	25.9	13.0
EL	:	:	:	:	:	:	:	:	:
ES	4.5	6.0	2.9	:	7.4	:	5.4	7.9	6.2
FR	:	:	:	:	:	:	:	:	:
IE	:	:	:	:	:	:	:	:	:
IT	5.8	6.2	5.1	8.9	7.3	6.6	8.0	11.3	6.7
CY	:	:	:	:	:	:	:	:	:
LV	2.0	7.8	5.7	:	10.4	:	7.1	8.6	8.0
LT	9.3	6.0	4.9	:	7.8	:	5.0	15.8	5.6
LU	0.0	5.8	:	:	10.3	:	9.8	9.1	9.5
HU	10.3	8.8	4.1	:	10.7	:	9.8	22.0	10.4
MT	:	:	:	:	:	:	:	:	:
NL (3)	7.2	7.9	3.8	7.5	10.2	9.9	10.3	13.8	12.1
AT	:	:	:	:	:	:	:	:	:
PL	:	:	:	:	:	:	:	:	:
PT	4.7	4.5	3.0	4.4	5.2	4.7	3.4	5.8	4.7
SI	4.5	5.5	2.2	:	8.5	:	6.4	4.6	6.0
SK	14.2	12.0	13.0	:	16.1	:	12.8	16.9	17.0
FI	4.4	5.7	1.9	6.7	7.7	7.1	4.0	8.3	7.3
SE (4)	3.3	4.5	2.7	4.6	6.3	7.5	4.9	4.3	4.8
UK (3)	12.7	9.3	9.4	9.7	9.5	13.8	10.5	11.6	11.2
Average (5)	5.0	5.8	2.4	6.8	7.6	7.7	6.8	9.9	7.9
RO	6.5	9.5	3.2	:	12.8	:	9.7	9.3	8.6
NO (3)	2.9	9.0	2.7	6.7	7.5	7.1	8.6	30.9	9.1

(1) Sole proprietorships are not included in the data for Portugal and Romania; in Estonia, only sole proprietorships with at least 20 employees are included; in Latvia, natural persons are not included; in the Czech Republic, death rates are overestimated because reactivations are not taken into account.

(2) NACE Section K, excluding NACE Class 74.15 (management activities of holding companies).

(3) 2000.

(4) 2002.

(5) 2000; average of the available data for the EU-25 Member States (composition changes for each activity).

Source: Eurostat, Structural Business Statistics (Business demography)

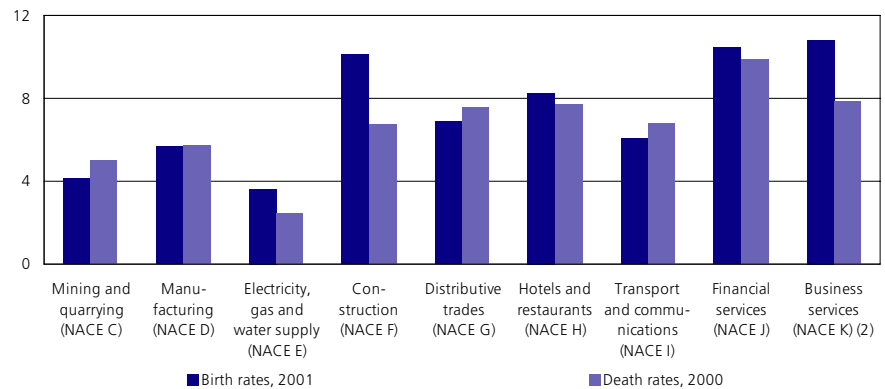
birth rates were recorded for construction, financial intermediation (NACE Section J) and business services (see Table 1.21). Note that these averages are computed on the basis of available data and that the composition of the average (in terms of data for the Member States) changes for each activity.

Enterprise deaths are defined in much the same way as for enterprise births. Statistically, it is often quite difficult to determine a real enterprise death, as the cessation of activity may only be detected after a lengthy delay. The highest death rates tended to be recorded within the activities of distributive trades, hotels and restaurants (NACE Section H), financial intermediation, and business services (see Table 1.22). As such, there was quite a high degree of correlation between those activities that reported high birth and high death rates. These activities tend to be found within the services sector, in particular for activities that are characterised by low barriers to entry, where very small enterprises may be relatively easily established (see Figure 1.29). Overall, there was a net increase in the number of 'real' enterprises, as enterprise birth rates were more

than a percentage point higher than the death rates. However, it should be noted that the balance of enterprise births and deaths is not the only factor explaining a change in the whole population of active enterprises. Mergers, take-overs, split-offs and break-ups do not lead to births or deaths (of 'real' enterprises), but change the number of active enterprises as well.

While it may be considered important to encourage entrepreneurship and enterprise creation, the future competitiveness of the EU economy also depends on the underlying conditions for enterprise growth and survival. Survival rates correspond to the proportion of enterprises from a particular cohort of newly born enterprises that have survived a given number of years; with the ratio being expressed as a proportion of the total number of enterprises that were born in the cohort. Survival rates vary greatly according to the size of the enterprise, with the lowest survival rates usually found for the smallest enterprises. Enterprises approaching a minimum efficient scale of production (through internal growth or acquisition), while accumulating additional knowledge, experience and assets, should subsequently increase their chances of survival. Between 2000 and 2002 the one year survival rates of enterprises in the EU's business economy ranged between 79.7 % and 83.1 %, indicating that approximately 20 % of newly born enterprises did not survive to the end of the year after their creation.

Figure 1.29 Average birth and death rates, EU (enterprise births and deaths as a proportion of the total number of enterprises) (1)



(1) Average of the available data for the EU Member States (composition changes for each activity); sole proprietorships are not included in the data for Portugal and Romania; in Estonia, only sole proprietorships with at least 20 employees are included; in Latvia, natural persons are not included in the death rates; in the Czech Republic, death rates are overestimated because reactivations are not taken into account. (2) NACE Section K, excluding NACE Class 74.15 (management activities of holding companies). Source: Eurostat, Structural Business Statistics (Business demography)

1.7: DEVELOPMENTS OVER TIME – AN ANALYSIS OF STS DATA

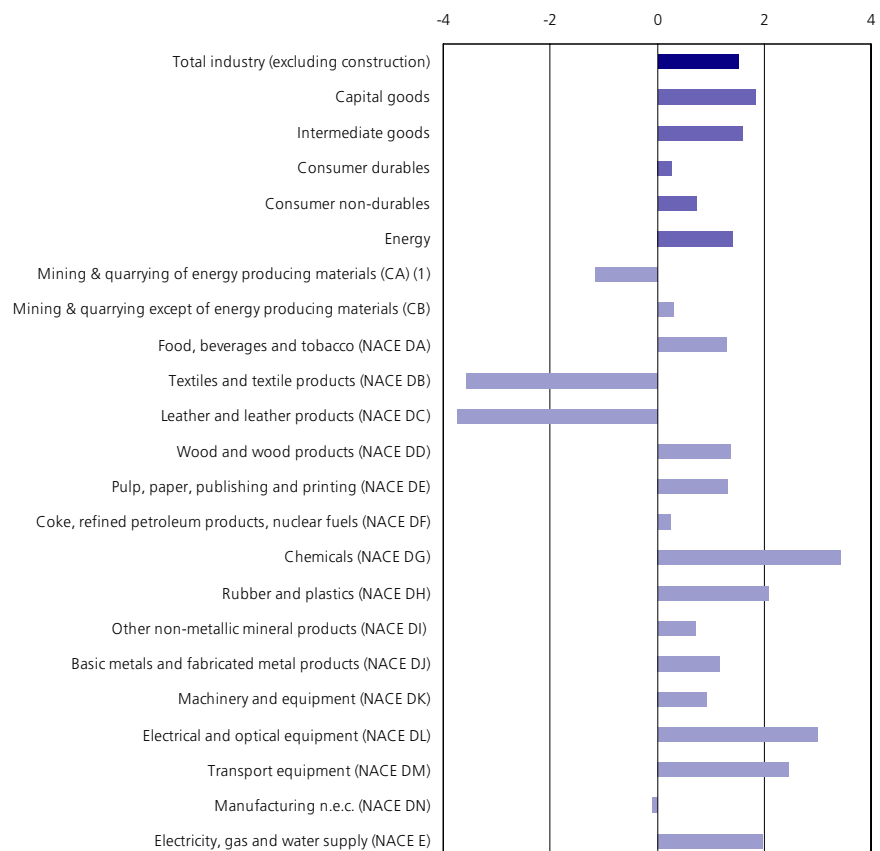
The following section provides information on activity developments with the majority of the data being sourced from Eurostat's short-term statistics (STS) database.

EVOLUTION WITHIN THE INDUSTRIAL ECONOMY

Figure 1.30 shows the average annual growth of EU-25 production indices for the Main Industrial Groupings (MIGs) and NACE subsections that make-up the industrial economy. Overall, EU-25 industrial output contracted in 1992 and 1993, after which it expanded at a relatively fast pace through to 2000, other than in 1996 when there was almost no expansion. The fastest growth was recorded in 1994 and 2000 when EU-25 industrial output expanded by 4.9 % and 4.8 % respectively (see Figure 1.31). During the period 2001 to 2003 there was either modest growth or a contraction in industrial activity, while 2004 marked a return to somewhat higher growth rates, as industrial output in the EU-25 expanded by 2.2 %.

Growth rates for the MIGs were not uniform, with the slowest expansion in output being recorded for consumer durables (such as furniture or clothing), whose level of output fell by 5.6 % overall (equivalent to -1.4 % per annum) between 2000 and 2004.

Figure 1.30 Working day adjusted production indices, average annual growth rates, EU-25, 1991-2004 (%)



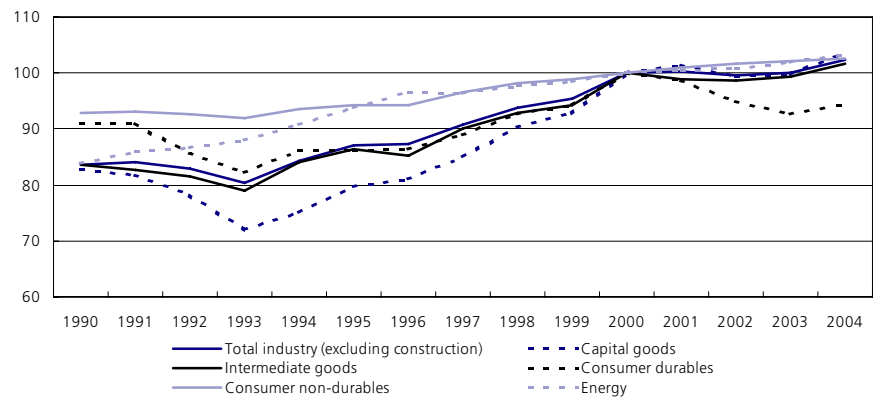
(1) Average annual growth, 1994-2004. Source: Eurostat, Short-term Business Statistics (Production indices)

While most of the other MIGs were often reporting rates of growth between 4 % and 6 % per annum during the second half of the 1990s, the highest year on year change for consumer non-durables (such as food and beverages) was 2.6 % in 1997. This pattern continued during the period 2001 to 2004, when annual increases in output never rose above 1 %.

The pattern of growth for capital goods (such as machinery and equipment) was more cyclical, reflecting periods of higher economic confidence and increased investment, as well as downturns in activity. Indeed, the highest year on year growth rate (7.6 %) was recorded for capital goods in 2000. More recently the fluctuating trend continued, with output in the EU-25's capital goods sector contracting by 2.1 % in 2002, but rising by 3.7 % in 2004 (the highest growth rate among the MIGs in 2004). The evolution of output also followed a more cyclical path for intermediate goods (such as basic chemicals or metals), although fluctuations from one year to the next were usually not as marked as for capital goods.

The evolution of output for energy was somewhat different to that observed for the other MIGs, as there was no contraction in activity in the first half of the 1990s. Indeed, the 0.2 % reduction in activity in 1997 was the only negative year on year rate recorded for this MIG between 1991 and 2004.

Figure 1.31
Evolution of working day adjusted production indices, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics (Production indices)

At a more detailed level the most rapid expansion in EU-25 output between 1991 and 2004 was recorded for chemicals, chemical products and man-made fibres (NACE Subsection DG), electrical and optical equipment (NACE Subsection DL) and transport equipment (NACE Subsection DM). While output growth was maintained after 2000 for chemicals and transport equipment, the manufacture of electrical and optical equipment declined in both 2001 and 2002, having posted a 14.2 % expansion in 2000.

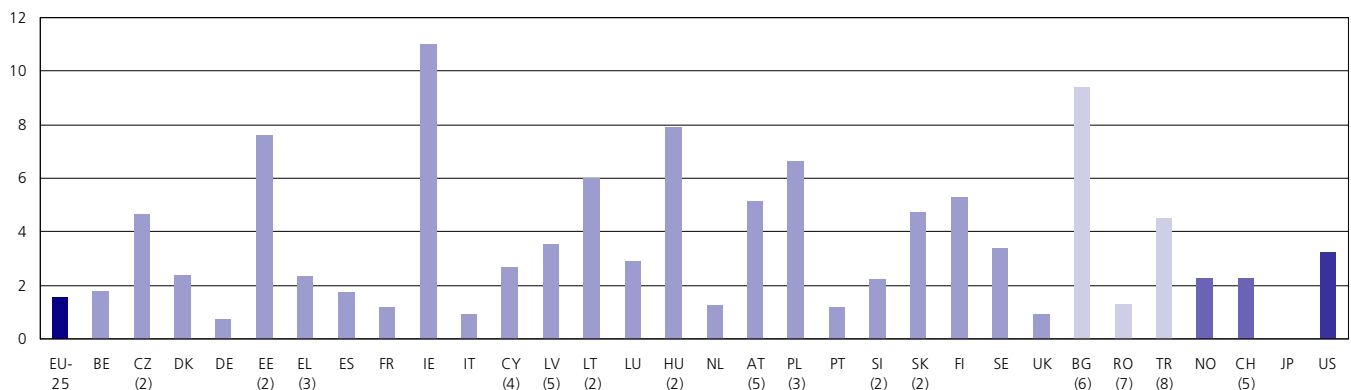
On the other hand, there were several branches that reported contractions in activity, most notably leather and leather products (NACE Subsection DC), textiles and textile products (NACE Subsection DB) and the mining and quarrying of energy producing materials (NACE Subsection CA). Even during the economic upturn of the second half of the 1990s, output of leather and textiles often fell on a year on year basis and the pace at which production declined accelerated after 2000. Indeed, between 2000 and 2004, the level of output of mining and quarrying of energy producing

materials fell overall by 10.2 %, while corresponding reductions for textiles (19.1 %) and leather (28.0 %) were considerably larger.

Among the Member States, total industrial output was seen to follow a number of different paths. Figure 1.32 shows that in Ireland and the majority of the Member States that joined the EU in 2004 (except Cyprus and Slovakia)⁽¹⁷⁾ there was relatively rapid growth in industrial output. While many of the remaining Member States reported rapid output growth in the second half of the 1990s, there were often modest increases between 2000 and 2004. For example, industrial output increased by 2.5 % overall in Germany and by 1.3 % in France during the period 2000 to 2004, while Italy and the United Kingdom were the only Member States to report that their level of industrial output fell (by 3.8 % and 4.1 % overall respectively during the same period).

⁽¹⁷⁾ Malta, not available.

Figure 1.32
Working day adjusted production indices, total industry (excluding construction), average annual growth rates, 1991-2004 (%) (1)



(1) Malta, not available. (2) Average annual growth, 1998-2004. (3) Average annual growth, 1995-2004. (4) Average annual growth, 1999-2004. (5) Average annual growth, 1996-2004. (6) Average annual growth, 2000-2004. (7) Average annual growth, 1992-2004. (8) Gross data; average annual growth, 2000-2004.

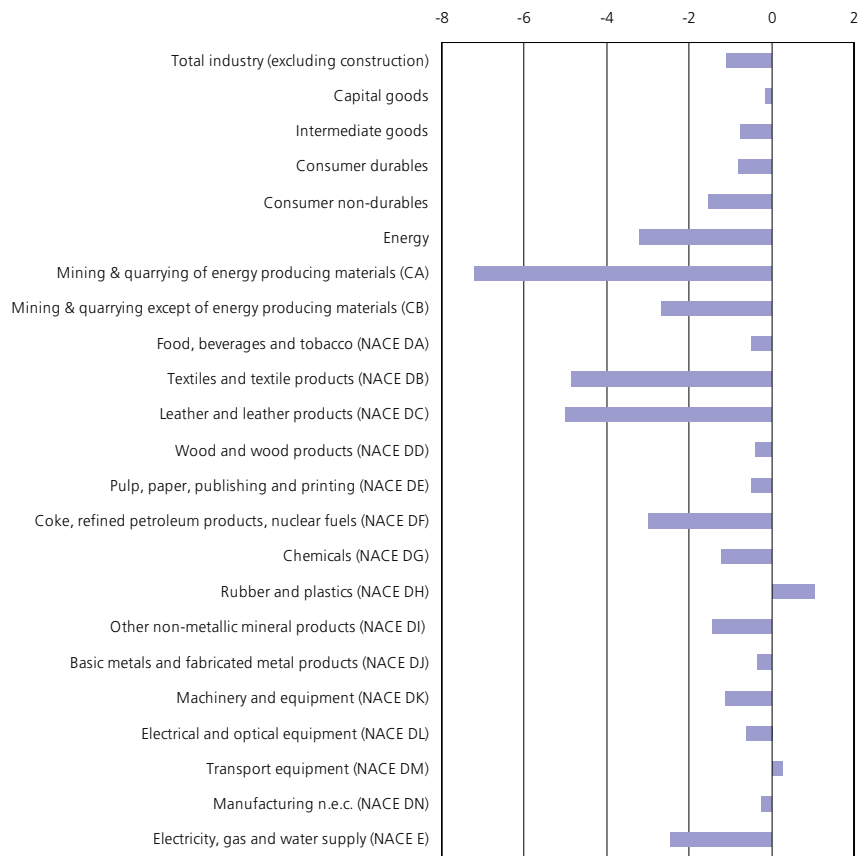
Source: Eurostat, Short-term Business Statistics (Production indices)

Capacity utilisation in the EU-25 fell during three successive years to a low of 78.1 % at the start of 1993. Subsequently there was a period of increasing utilisation through to the start of 2001 (despite modest reductions in 1996, 1997 and 1999). Between the start of 2001 and the start of 2002 there was a rapid decline in capacity utilisation, which was followed by a period of two years when there was almost no change in utilisation rates. The most recent data available confirmed the increase observed in industrial output, as utilisation rates rose modestly during the twelve months to the start of 2005.

While the output of most industrial activities rose, the majority of sectors saw their levels of employment fall, see Figure 1.33. Indeed, during the period 1996 to 2004, there was only one year when EU-25 industrial employment rose, with a 0.4 % increase recorded in 1998 (see Figure 1.34). The three largest year on year reductions in the number of persons employed were recorded for the three most recent reference periods, namely 2002 to 2004. During these three years there were only two branches that reported year on year gains in their respective number of persons employed, as the EU-25 employment index for rubber and plastic products (NACE Subsection DH) rose in 2003 and 2004, while that for manufacturing n.e.c. (NACE Subsection DN) rose in 2003.

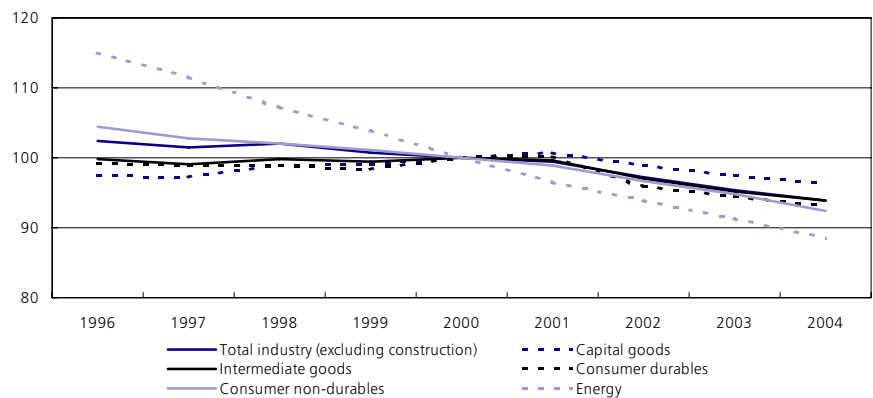
There was a clear relationship between the evolution of industrial output and employment at the EU-25 level. Employment losses were generally modest for those branches where production had expanded at its most rapid pace, while the most significant declines were registered among branches where output had fallen. This was particularly the case for the mining and quarrying of energy producing materials (NACE Subsection CA), where there were net job losses of more than 10 % in each of 1999 and 2000. Over the period 2000 to 2004 the largest reductions were recorded for textiles and textile products (where there was an overall decline of 21.1 % in the number of persons employed), mining and quarrying of energy producing materials (-20.8 %) and leather and leather products (-18.5 %). The only industrial branch to report a net increase in persons employed was rubber and plastics, where there was an overall net gain of 1.3 % between 2000 and 2004.

Figure 1.33 Gross employment indices, average annual growth rates, EU-25, 1996-2004 (%)



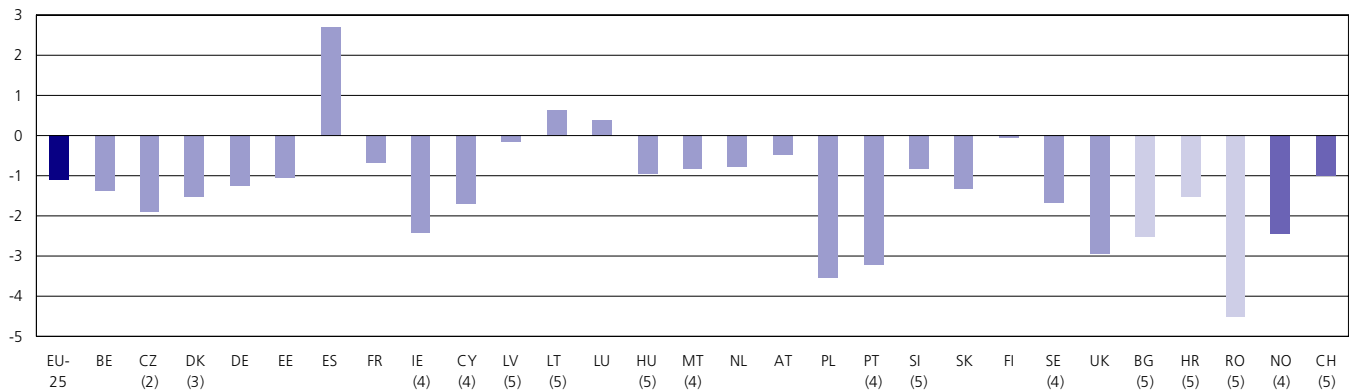
Source: Eurostat, Short-term Business Statistics (Labour input indices)

Figure 1.34 Evolution of gross employment indices, EU-25 (2000 = 100)



Source: Eurostat, Short-term Business Statistics (Production indices)

Figure 1.35

Gross employment indices, total industry (excluding construction), average annual growth rates, 1996-2004 (%) (1)


(1) Greece and Italy, not available.

(2) Average annual growth, 1997-2004.

(3) Average annual growth, 1996-2003.

(4) Average annual growth, 2000-2004.

(5) Average annual growth, 1998-2004.

Source: Eurostat, Short-term Business Statistics (Labour input indices)

Table 1.23

Gross turnover indices, annual growth rates, EU-25 (%)

	1999	2000	2001	2002	2003	2004
Motor trade (NACE 50)	4.3	2.8	2.1	3.1	3.9	5.8
Wholesale trade (NACE 51)	3.0	10.2	0.8	0.8	1.2	4.8
Retail trade (NACE 52) (1)	3.3	4.2	4.5	2.8	2.2	2.8
Hotels & restaurants (NACE 55)	5.0	4.4	4.3	1.6	1.4	2.2
Land transport; transport via pipelines (NACE 60)	:	:	:	:	5.0	6.2
Water transport (NACE 61)	:	:	:	-2.8	7.7	9.2
Air transport (NACE 62)	:	11.8	-0.6	0.7	-1.2	1.6
Supporting & auxiliary transport activities; travel agencies (NACE 63)	:	:	:	:	2.0	8.7
Post & telecommunications (NACE 64)	:	12.0	10.4	5.4	4.6	5.0
Computer services (NACE 72)	19.1	12.6	10.6	0.3	4.1	2.9
Other business activities (NACE 74)	:	:	:	:	5.1	4.4

(1) Working day adjusted data.

Source: Eurostat, Short-term Business Statistics (Trade and other services)

There was less of a clear picture between output and employment performance across the Member States, see Figure 1.35. Between 1996 and 2004 the number of persons employed in Lithuania, Luxembourg and Spain increased ⁽¹⁸⁾, while there were relatively modest reductions in the industrial workforces of Latvia and Finland. The biggest net reductions were posted in Ireland, Poland, Portugal, and the United Kingdom, where the industrial workforce declined, on average, by at least 2.4 % per annum between 1996 and 2004.

EVOLUTION WITHIN SERVICE SECTORS

Short-term statistics have traditionally been less developed for service rather than industrial branches of the economy. As a result the time-series presented are currently quite short, nevertheless, gross turnover indices are available for the EU-25 for a number of branches, see Table 1.23. Note that the information presented is given in terms of current prices and as such does not reflect real changes in turnover as price movements should also be considered.

The most rapid EU-25 turnover growth was recorded for transport and communication branches (other than air transport), computer and related activities (NACE Division 72) and other business activities (NACE Division 74), while more modest rates were recorded for the distributive trades (NACE Section G), and hotels and restaurants (NACE Section H).

⁽¹⁸⁾ Greece and Italy, not available; an alternative period to 1996-2004 had to be used for a number of countries (see the figure for more details).

Table 1.24
Gross employment indices, annual growth rates, EU-25 (%)

	1999	2000	2001	2002	2003	2004
Motor trade (NACE 50)	-1.3	0.2	1.1	1.1	0.4	2.1
Wholesale trade (NACE 51)	2.5	1.9	-0.4	-0.1	-1.6	0.3
Retail trade (NACE 52)	2.2	2.6	1.9	2.3	1.5	1.6
Hotels & restaurants (NACE 55)	2.0	2.6	1.9	2.1	1.7	1.6
Land transport; transport via pipelines (NACE 60)	0.6	-0.2	0.0	0.1	0.5	1.0
Water transport (NACE 61)	:	:	-4.5	-4.1	1.7	-2.8
Air transport (NACE 62)	6.6	5.0	0.0	-2.1	0.3	-1.5
Supporting & auxiliary transport activities; travel agencies (NACE 63)	:	:	4.0	0.3	1.5	1.6
Post & telecommunications (NACE 64)	2.1	4.5	1.3	-1.4	-2.5	-3.0
Computer services (NACE 72)	15.1	12.7	10.2	0.5	-2.2	0.0
Other business activities (NACE 74)	5.9	7.0	4.7	2.4	1.7	3.3

Source: Eurostat, Short-term Business Statistics (Trade and other services)

In contrast to the industrial economy, there were frequent increases in the number of persons employed within services branches, see Table 1.24. This was particularly true for other business activities, where EU-25 employment levels rose by 13.4 % overall between 2000 and 2004. Gains of between 7 % and 8 % were registered for computer and related activities, supporting and auxiliary transport activities; travel agencies (NACE Division 63), hotels and restaurants, and retail trade (NACE Division 52). There were nevertheless some reductions in employment levels, with overall losses of between 1.8 % and 2.9 % between 2000 and 2004 reported for water transport (NACE Division 61), wholesale trade (NACE Division 51) and air transport (NACE Division 62). However, the largest reduction in employment levels (among those services branches for which data are available in Table 1.24) was for post and telecommunications (NACE Division 64), where after gains during the period 1999 to 2001, there followed three successive years of increasingly large numbers of net job losses, culminating in a 3.0 % reduction in 2004.

Energy



A competitive and reliable energy sector is essential for an economy, and this has been put under the spotlight in recent years by the increases in oil prices on one hand (see Subchapter 2.1) and major blackouts in electricity supply on the other hand (see Subchapter 2.3). The internal market for energy products has undergone major changes in recent years, and the functioning of these markets is an issue that is still under review. The topics of market access for suppliers and consumer choice are key areas being debated - see Subchapter 2.1 in relation to the gas market and Subchapter 2.3 for the electricity market.

Security of energy supply sources was the main focus of the Green Paper concerning the EU's energy policy adopted in 2000. In April 2004 a Directive on measures to safeguard security of gas supply⁽¹⁾ was adopted concerning, for example, storage, long-term contracts, emergency supply situations and major supply disruption. A European Commission proposal from 2003 concerning the security of electricity supply and infrastructure investment⁽²⁾ is, at the time of writing, the subject of discussions in the Council and Parliament, while in October 2004 a European Commission proposal from 2002 concerning the security of supply of petroleum products was withdrawn by the European Commission due to a lack of agreement in the Parliament and the Council.

⁽¹⁾ Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply.

⁽²⁾ COM (2003) 740.

The 2000 Green Paper also addressed energy efficiency and a Directive on cogeneration⁽³⁾ was adopted in February 2004 which it is expected will save primary energy, avoid network losses and reduce emissions, in particular of greenhouse gases.

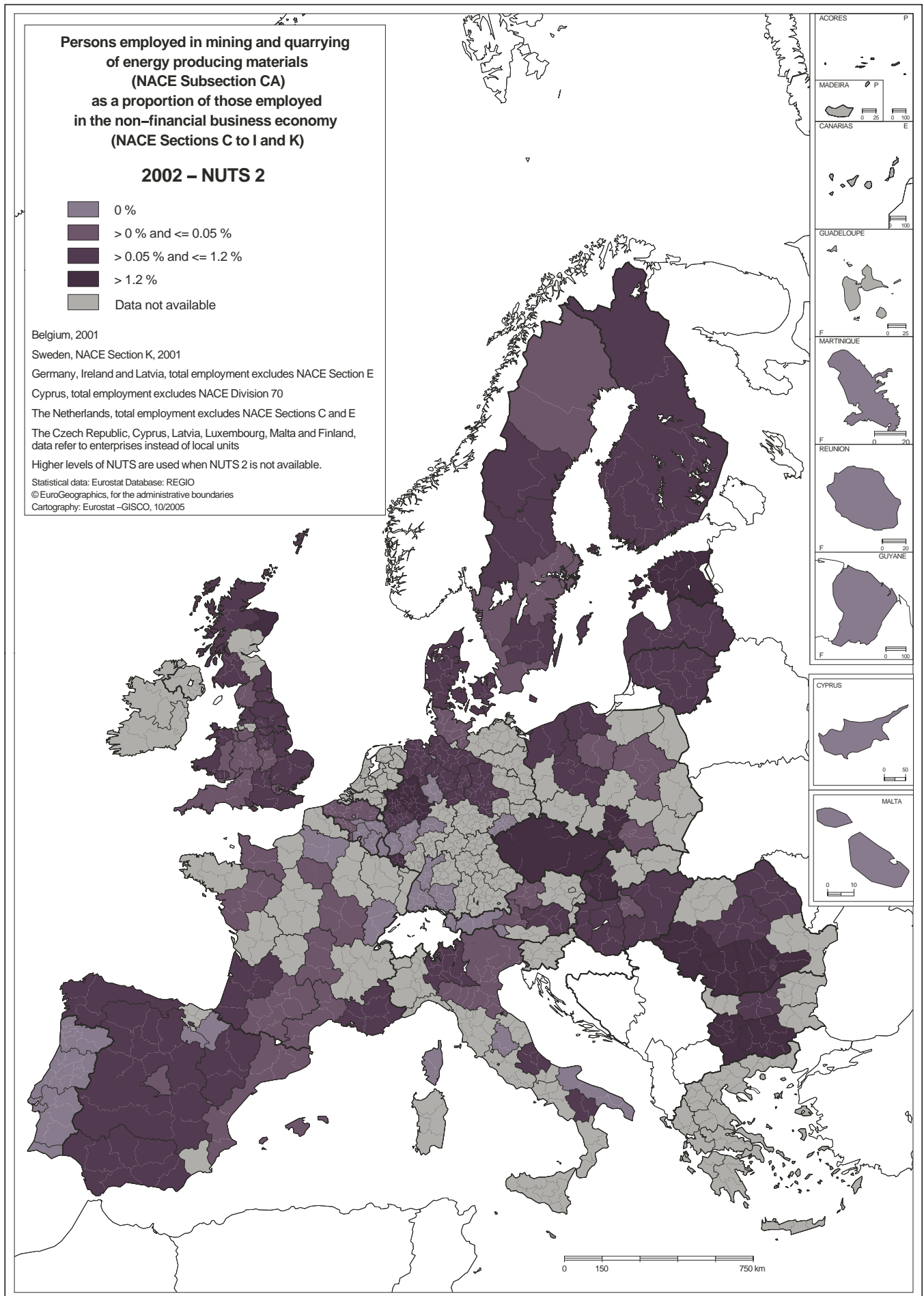
One of the major problems faced by the energy sector is its own impact on the environment and that from the use of its products. The main concern with the use of fossil fuels is air emissions. Box 2.1 provides some background to the Kyoto Protocol which is the basis for the commitments by many countries to reduce their emissions of six specified greenhouse gases. Figure 2.1 shows the development of greenhouse gas emissions within the EU since 1990, as emissions for the whole economy and emissions of the energy industries. Table 2.1 shows a selection of air emissions for the energy industries including acidifying compounds such as sulphur and nitrogen oxides, as well as the main greenhouse gases produced by these industries. It should be noted that trade can affect where emissions are recorded - for example, the substitution of production by imports (for electricity or for products that require a lot of energy in their production) can reduce emissions in a given country, while in fact having little global impact on the level of emissions (see Figure 2.19 in Subchapter 2.3 for details of trade in electricity).

⁽³⁾ Directive 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC.

This chapter describes the activities involved in the supply of energy, which include the mining and quarrying of energy producing materials (NACE Divisions 10 to 12), the manufacture of coke, refined petroleum products and nuclear fuel (NACE Division 23) and the supply of electricity, gas, hot water and steam (NACE Division 40). In addition transport via pipelines (NACE Group 60.3) is covered in this overview. Unlike most of the chapters in this publication, this one focuses mainly on products (rather than activities), namely solid fuels, oil, gas and electricity.

NACE

- 10: mining of coal and lignite; extraction of peat;
- 10.1: mining and agglomeration of hard coal;
- 10.2: mining and agglomeration of lignite;
- 10.3: extraction and agglomeration of peat;
- 11: extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying;
- 11.1: extraction of crude petroleum and natural gas;
- 11.2: service activities incidental to oil and gas; extraction, excluding surveying;
- 12: mining of uranium and thorium ores;
- 23: manufacture of coke, refined petroleum products and nuclear fuel;
- 23.1: manufacture of coke oven products;
- 23.2: manufacture of refined petroleum products;
- 23.3: processing of nuclear fuel;
- 40: electricity, gas, steam and hot water supply;
- 40.1: production and distribution of electricity;
- 40.2: manufacture of gas; distribution of gaseous fuels through mains;
- 40.3: steam and hot water supply;
- 60.3: transport via pipelines.



Box 2.1: the Kyoto Protocol

In December 1997 the Kyoto Protocol was adopted which required industrialised countries to reduce their emissions of six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride) on average by 5.2 % below the 1990 level during the first commitment period from 2008 to 2012. The Protocol entered into force on 16 February 2005 and as such the commitments became legally binding: at the time of writing the Protocol had been ratified by nearly all of the signatories, the most notable exceptions being the United States and Australia.

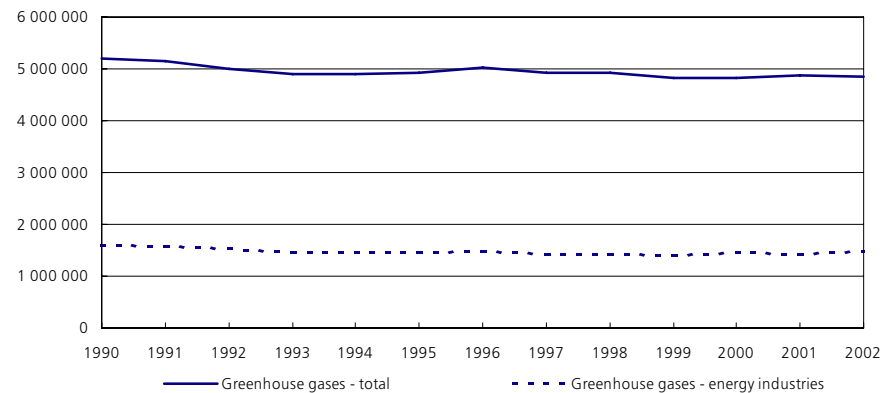
Under the Kyoto Protocol, the EU agreed to an 8 % reduction in its greenhouse gas emissions relative to the base year 1990. The reductions for each of the EU-15 Member States were agreed under the so-called EU burden sharing agreement, which allows some Member States to increase emissions, provided these are offset by reductions in other Member States. The Member States that joined the EU in 2004 have chosen other reduction targets and other base years, as allowed under the Protocol.

The main substitutes to fossil fuels are renewable energy sources and nuclear heat. The 1997 European Commission White Paper on energy for the future targeted the share of renewable sources in gross inland energy consumption at 12 % by 2010. In its Communication on cohesion policy in support of growth and jobs: Community strategic guidelines, 2007-2013, the European Commission noted in July 2005 the need to reduce traditional energy dependency through improvements in energy efficiency and renewable energies. As will be shown in Figure 2.6 on page 54, the overall contribution of renewable energy sources and nuclear energy to gross inland energy consumption has increased. Whilst nuclear heat also provides an alternative source to fossil fuels, reducing the reliance on imported fuels and also reducing the problems of emissions of greenhouse gases, the issues of safety of nuclear installations and the management of radioactive waste remain: in 2003 the European Commission proposed Directives addressing each of these issues - see Subchapter 2.3.

STRUCTURAL PROFILE

In 2001 the energy sector generated in excess of EUR 200 billion of gross value added, equivalent to around 5 % of the wealth created by the EU-25's non-financial business economy (NACE Sections C to I and K). By comparison, at 1.8 million persons, employment in the EU-25 energy sector accounted for just 1.6 % of employment in the non-financial business economy.

Figure 2.1
Greenhouse gas emissions, EU-25 (1 000 tonnes, CO₂ equivalent) (1)



(1) Energy industries include: public electricity and heat production; petroleum refining; manufacture of solid fuels and other energy industries (IPCC common reporting format sector classification).
Source: Eurostat - Environment and energy, Environment, Air pollution/climate change, Air emissions

Table 2.1
Emissions by energy industries, EU-25 (1 000 tonnes) (1)

	1990	2002
Sulphur oxides	14 159	5 116
Nitrogen oxides	3 910	2 276
Ammonium	6	5
Carbon monoxide	625	562
Non-methane volatile organic compounds	84	90
Carbon dioxide	1 570 030	1 444 141
Methane	83	110
Nitrous oxide	53	58

(1) Energy industries include: public electricity and heat production; petroleum refining; manufacture of solid fuels and other energy industries (IPCC common reporting format sector classification).
Source: Eurostat - Environment and energy, Environment, Air pollution/climate change, Air emissions

The energy sector is essentially made up of three very different activities, namely extraction, processing and distribution - see Table 2.2. The mining and extraction of energy products (NACE Divisions 10 to 12) generated 25.8 % of EU-25 value added in the energy sector in 2001, fuel processing (NACE Division 23) accounted for 12.2 %, and the network supply of electricity, gas, steam and hot water (NACE Division 40) was the largest segment generating just over 62 % of EU-25 value added.

In employment terms, the dominance of the network distribution part of the energy sector was even clearer, as NACE Division 40 accounted for 67.2 % of employment in the EU-25's energy sector in 2001. The processing of energy products (NACE Division 23) accounted for 10.3 % of the EU-25 energy sector's employment in 2001, less than half the 22.5 % share of mining and extraction of energy producing materials (NACE Divisions 10 to 12).

The United Kingdom generated over half (57.1 %) of the EU-25's value added in 2001 in the mining and extraction of energy products

sector (NACE Divisions 10 to 12), ahead of the Netherlands (9.7 %). In these Member States the extraction of crude petroleum and/or natural gas was responsible for these high shares. In employment terms, Poland dominated the sector, with in excess of 166 000 persons employed in 2002, compared with the second largest Member State which was Germany with 66 600 in 2002, equivalent to 17.4 % of the EU-25 total in 2001. The Czech Republic had the third largest workforce in the EU-25 in the mining and extraction of energy products sector with 45 600 persons employed in 2002.

In the fuel processing sector (NACE Division 23), Germany accounted for 15.0 % of EU-25 value added in 2002, slightly more than the United Kingdom (14.1 %) and Poland (14.0 %). The importance of Poland in the fuel processing sector is boosted by the relatively high importance of the manufacture of coke oven products, and this is particularly clear in employment terms as Poland accounted for approximately two thirds of EU-25 employment in fuel processing.

Table 2.2
Energy including transport via pipelines (NACE Subsection CA, Divisions 23 and 40 and Group 60.3)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Energy (1)	223 840	12.7	1 793	5.0
Mining of coal and lignite; extraction of peat (1)	10 326	0.6	344	1.0
Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying (2)	47 316	2.7	65	0.2
Mining of uranium and thorium ores (1)	-2	0.0	4	0.0
Manufacture of coke, refined petroleum products and nuclear fuel	29 069	1.7	176	0.5
Electricity, gas, steam and hot water supply	144 438	8.2	1 181	3.3
Transport via pipelines	2 908	0.2	10	0.0

(1) 2001.

(2) Value added, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 2.3
Energy (NACE Subsection CA and Divisions 23 and 40)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	81.7	115.1	95.8	103.4	6.0	70.2	23.8
BE	76.4	100.1	97.2	108.6	7.0	69.4	23.6
CZ	84.3	132.8	99.5	102.2	3.9	66.7	29.4
DK	84.7	120.5	95.7	105.0	:	55.1	41.8
DE	82.2	113.6	94.6	106.0	9.8	65.6	24.7
EE	70.6	128.7	98.1	100.4	:	63.3	31.3
EL	80.2	109.5	99.7	101.5	:	74.9	23.0
ES	83.3	110.4	98.4	101.3	9.6	70.0	20.4
FR	81.9	114.5	90.3	95.9	4.1	77.4	18.5
IE	78.6	113.2	93.5	99.9	:	58.5	33.0
IT	87.7	123.2	97.7	104.0	4.7	68.8	26.5
CY	81.9	124.3	100.0	105.5	:	72.1	22.5
LV	69.7	118.8	95.0	99.8	:	61.1	33.2
LT	81.1	147.6	99.4	103.0	:	72.4	22.3
LU	92.1	112.7	97.3	104.3	:	78.4	:
HU	72.8	119.0	98.1	101.2	4.8	62.3	34.2
MT	100.0	127.7	97.8	101.0	:	79.5	:
NL	84.4	108.3	80.3	108.4	:	60.8	30.3
AT	88.8	120.9	94.4	105.9	6.6	68.0	24.5
PL	83.8	123.9	98.9	103.5	:	81.7	17.2
PT	84.1	142.6	100.0	102.5	:	70.9	:
SI	88.4	139.3	97.6	101.8	:	71.7	22.7
SK	79.9	129.0	100.0	101.4	5.4	78.6	18.5
FI	75.9	105.3	94.8	100.9	:	54.7	35.7
SE	74.2	99.4	95.0	104.0	:	59.2	34.7
UK	76.3	102.1	93.1	102.5	10.5	62.8	26.7

(1) Austria, 2003; Hungary, 2002; Slovakia, 2001.

(2) Lithuania, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

In electricity, gas, steam and hot water supply (NACE Division 40) there was much less specialisation across the Member States, with Germany accounting for 21.7 % of EU-25 value added.

EMPLOYMENT CHARACTERISTICS

The energy sector's (NACE Subsection CA and Divisions 23 and 40) workforce in the EU-25 can be characterised as male and full-time with a relatively high importance of older workers - see Table 2.3. In 2004, according to Labour

Force Survey data, 81.7 % of the persons employed in this sector were male, some 17.0 percentage points higher than the business economy (NACE Sections C to K) average. The proportion of full-time workers was 95.8 %, 10.0 percentage points higher than the average

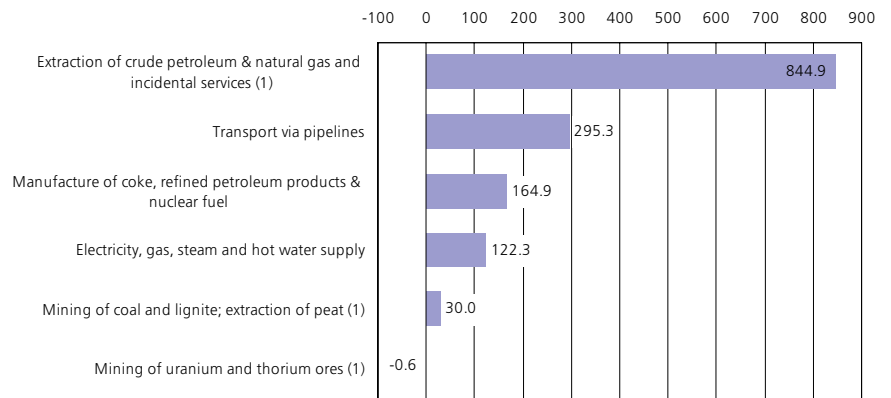
for the business economy. The proportion of young persons (aged less than 25) in this sector's workforce was just 6.0 %, almost exactly half the average share for the business economy. As a result older workers made up a large part of the workforce, particularly persons aged 50 or over.

PRODUCTIVITY AND PROFITABILITY

Figure 2.2 clearly demonstrates the enormous range in levels of apparent labour productivity between the different energy activities. With an apparent labour productivity of EUR 844 900 per person employed in 2001, the extraction of crude petroleum and natural gas, and incidental services (NACE Division 11) had by a large margin the highest productivity by this measure of all NACE divisions in the non-financial business economy. In contrast the mining of coal, lignite and peat (NACE Division 10) had relatively low apparent labour productivity, well below the industrial (NACE Sections C to E) average of EUR 49 100, while the other energy mining activity, namely the very small activity of the mining of uranium and thorium ores (NACE Division 12) recorded a negative apparent labour productivity in 2001 (EUR -600 per person employed).

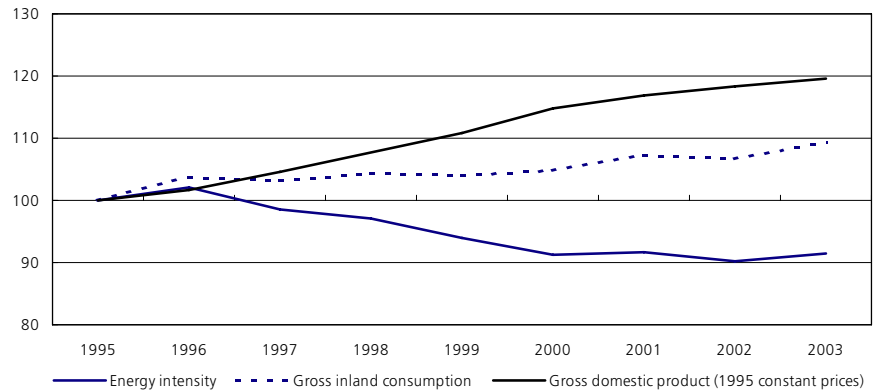
Leaving aside the very small activity of the mining of uranium and thorium ores (NACE Division 12) which had a negative gross operating surplus, the gross operating rates within the EU-25's energy sector ranged in 2001 and 2002 from 5.6 % in the fuel processing sector (NACE Division 23) to 44.6 % in transport via pipelines (NACE Group 60.3) and 49.8 % in the extraction of crude petroleum and natural gas, and incidental services (NACE Division 11). This very high rate for the extraction of crude petroleum and natural gas, and incidental services was the highest gross operating rate among the EU-25's non-financial business economy NACE divisions in 2001.

Figure 2.2
Selected energy activities and transport via pipelines
Apparent labour productivity, EU-25, 2002 (EUR thousand)



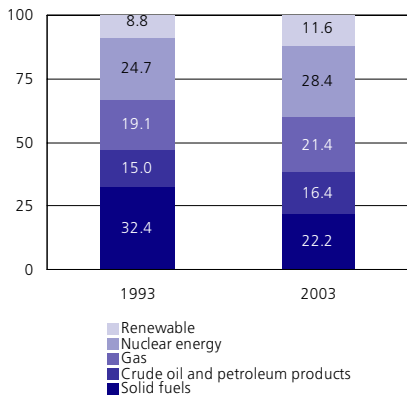
(1) 2001.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 2.3
Energy intensity, EU-25 (1995=100)



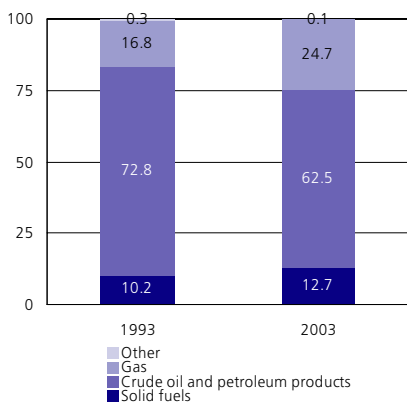
Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - Structural Indicators in energy - annual data; Economy and Finance, National accounts, GDP and main aggregates

Figure 2.4
Primary production by fuel type, EU-25 (%)



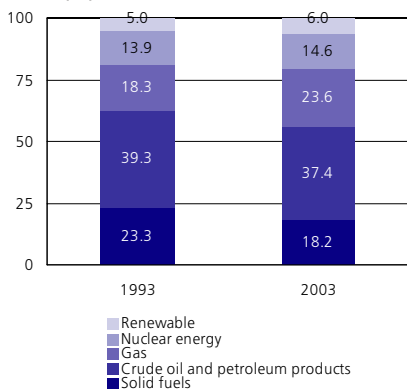
Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Figure 2.5
Net imports by fuel type, EU-25 (%)



Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Figure 2.6
Gross inland consumption by fuel type, EU-25 (%)



Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Box 2.2: definitions

Primary production is the sum of energy extraction, heat produced in reactors as a result of nuclear fission and the use of renewable energy sources. Primary production, net imports (imports - exports) and stock changes combine to show gross inland consumption. This indicator corresponds to the amount of energy available for final consumption plus the sum of distribution and transformation losses and consumption by the energy branch itself. Energy available for final consumption is the energy placed at the disposal of consumers including non-energy consumption, for example the use of some energy products as raw materials by the chemical industry.

Box 2.3: note on external trade

Note that unlike the rest of this publication the EU-25's imports and exports of energy products (from Eurostat's energy domain) are generally measured as the sum of the external trade of the Member States. This means that internal trade between EU Member States is counted in the EU's total, rather than considering the EU as a whole and only counting extra-EU trade flows.

As noted above, the EU-25's net imports of fuels grew significantly between 1993 and 2003: on average gas imports grew by 6.3 % per annum, solid fuels by 4.5 % per annum and oil and petroleum products by 0.7 % per annum. These different growth rates, in particular the relatively low growth in net oil and petroleum products imports, has led to a major change in the product mix in net imports over the period considered (see Figure 2.5), with a 10.2 percentage point drop in the share of oil and petroleum products.

An analysis of the product mix of gross inland consumption in 1993 and in 2003 is shown in Figure 2.6. The product mix in 2003 compared with 10 years earlier showed a lower dependence on fossil fuels in relative terms, and a higher use of other sources. However, among the fossil fuels the development is uneven. The increase in primary production of gas, and the very strong increase in net imports of gas increased this product's share of gross inland consumption from 18.3 % in 1993 to 23.6 % in 2003. Solid fuels mirrored this development, their share falling from 23.3 % to 18.2 % over the same period, with the decline in primary production considerably greater than increased net imports. This change has, to a large extent, been the result of changes in inputs for conventional thermal power stations.

The overall declining share of fossil fuels in gross inland consumption was balanced by an increased use of nuclear energy and renewable energy sources⁽⁴⁾. The share of nuclear energy rose from 13.9 % in 1993 to 14.6 % of gross inland consumption in 2003. Renewable energy sources increased their share from 5.0 % of gross inland consumption in 1993 to 6.0 % in 2003 - see Subchapter 2.3 for more information on the use of various renewable energy sources for electricity generation.

⁽⁴⁾ Hydroelectric, wind, solar, geothermal energy and biomass/waste.

PRODUCTION, EXTERNAL TRADE AND CONSUMPTION OF ENERGY PRODUCTS

Primary energy production in the EU-25 increased on average by 0.2 % per annum between 1993 and 2003 to reach 885 million toe (tonnes of oil equivalent). This rate of increase was slower than that recorded for gross inland consumption over the same period, namely an average of 1.1 % per annum to 1.7 billion toe. Consequently the EU-25's dependency on energy imports has grown, net imports increasing on average by 2.2 % per annum to 876 million toe in 2003, equivalent to 98.9 % of primary production.

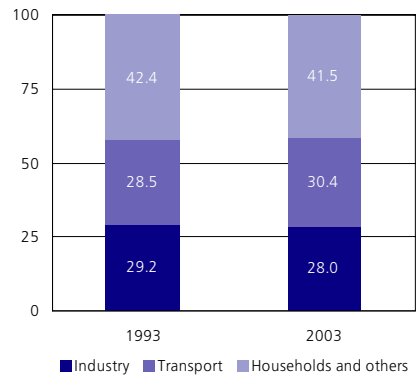
Despite the increase in gross inland energy consumption, the energy intensity (measured as gross inland energy consumption divided by GDP) of the EU-25 economy fell by over 12 % between 1993 and 2003, meaning that less energy was required to produce the same amount of GDP. Figure 2.3 shows the trend in energy intensity for the EU-25 and the two components of this indicator.

Figures 2.4 to 2.6 show the change in the 10 years between 1993 and 2003 in the energy product mix of the EU-25 in terms of primary production, net imports and gross inland consumption.

In terms of primary production the share of solid fuels (for example coal and coke) fell significantly from nearly one third (32.4 %) of all EU-25 primary production in 1993 to just over a quarter (22.2 %) in 2003 - see Figure 2.4. This large fall was compensated by an increase in each of the other sources, with renewables, in particular, and also nuclear heat, increasing their shares the most. In absolute terms, all sources saw an increase in primary production over the 10 years analysed, except for solid fuels whose output decreased on average by 3.5 % per annum.

Figure 2.7 provides an overview of the change in the destination of final energy use in the 10 years between 1993 and 2003. Most notably the share of energy used for transport (including all transport, not just transport by the transport services sector) in the EU-25 increased by 2.0 percentage points, while the share consumed by industry and by other sectors fell. The increased share of road transport in final energy use was particularly strong over this period in the Member States that joined the EU in 2004.

Figure 2.7
Final energy consumption by end-use, EU-25 (%) (1)

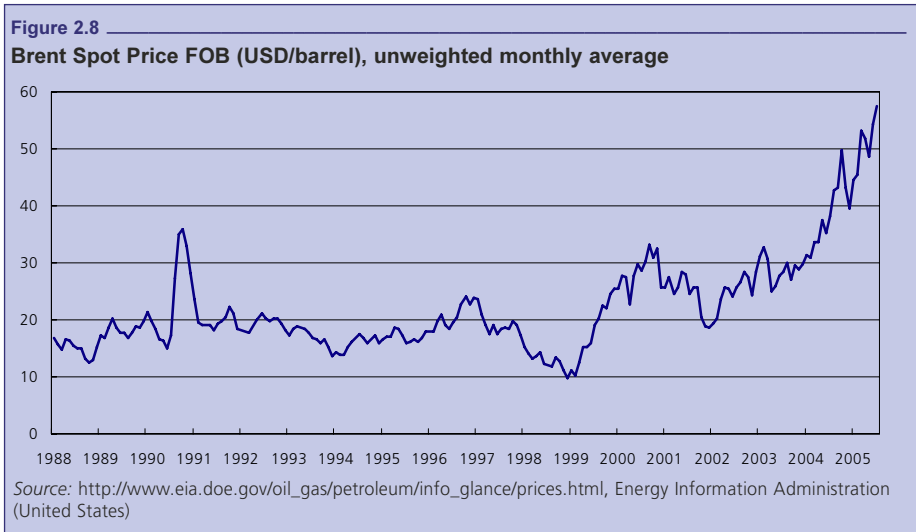


(1) Provisional.
Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

2.1: CRUDE OIL AND NATURAL GAS

This subchapter looks at crude oil, petroleum products and natural gas. Although the analysis is based on product statistics, the activities related to these products are covered by the extraction of crude petroleum and natural gas and related supporting services (NACE Division 11), the manufacture of refined petroleum products (NACE Group 23.2) and the manufacture and distribution of gas (NACE Group 40.2). The related activities of exploration and surveying are covered in Chapter 22 and the retail sale of automotive fuels is covered in Chapter 16.

The gas market in the EU has been changing through the implementation of the 1998 Gas Directive and its replacement, namely the 2003 Directive concerning common rules for the internal market in natural gas. The aim of the latter was to have a gas market open for all non-household customers by July 2004, and for all customers by July 2007, as well as further unbundling the sector's supply and distribution enterprises. A Regulation⁽⁵⁾ on conditions for access to gas transmission networks is at present being discussed by the Council and the Parliament to provide a legal basis for existing voluntary rules on key aspects of third party access to networks, for example concerning criteria for charges for access to networks, third party access services, capacity allocation mechanisms and congestion management procedures. It is expected that these common standards for network access conditions will lead to increased competition.



One of the most visible characteristics of the energy sector and its products is the volatility in the price of oil, which at the time of writing is at a very high level - see Figure 2.8. From a high above USD 37 in early September 2000, crude oil prices (Brent spot price) generally fell until the middle of November 2001 when prices bottomed out at USD 16, since then they grew quite consistently to over USD 60 in the summer of 2005. High oil prices have an impact on prices of substitutes, notably natural gas, and also feed into the prices of products from other sectors that are heavy users of energy or of energy products as raw materials, for example, the aluminium, iron and steel, and basic chemicals sectors.

⁽⁵⁾ Proposal for a Regulation of the European Parliament and of the Council on conditions for access to the gas transmission networks, COM (2003) 741 final.

Box 2.4: proved reserves

Table 2.4 shows world production and proved reserves of crude oil. The BP Statistical Review of World Energy notes that 'proved reserves are generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions'.

Table 2.4**Production and proved reserves of oil, 2004 (1)**

	Production (million barrels/day)	Proved reserves (billion barrels) (2)	R/P ratio (years) (3)
North America	14.2	61.0	11.8
South and Central America	6.8	101.2	40.9
Africa	9.3	112.2	33.1
Western Europe (DK, IT, UK, NO)	5.7	16.2	7.8
Central and Eastern Europe	11.9	123.0	28.4
Middle East	24.6	733.9	81.6
Asia Pacific	7.9	41.1	14.2
World	80.3	1 188.6	40.5

(1) Oil includes gas condensate and natural gas liquids as well as crude oil.

(2) As of end 2004.

(3) Ratio of reserves divided by production.

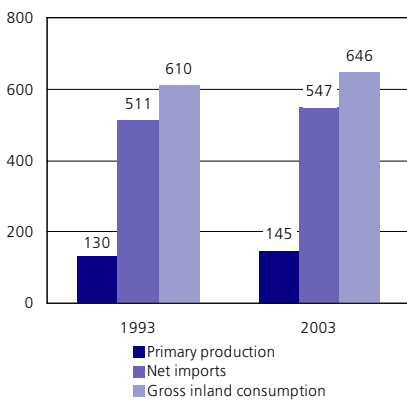
Source: BP Statistical Review of World Energy June 2005

Gross inland consumption of hydrocarbons increased from 892.9 million toe in 1993 to 1 054 million toe in 2003. Crude oil and petroleum was responsible for most of this total (61.9 %) in 2003, although its share was less than in 1993 (68.3 %).

These two types of hydrocarbons are also notably different in their use. Crude oil is essentially a transformation input, while only just over a quarter of the gross inland consumption of natural gas is transformed.

Analysing crude oil in more detail, EU-25 transformation (including feedstocks) reached 715 million tonnes in 2003, all of which was destined for refineries: EU-25 transformation output of all petroleum products was 706 million tonnes in 2003, split as follows: gas/diesel oil, 36.0 %; motor spirit, 20.9 %; residual fuel oils, 15.6 %; naphtha, 5.9 %; kerosene/jet fuels, 6.1 %; refinery gas, 3.3 %; liquefied petroleum gases (LPG), 2.9 %; and various other petroleum products, 9.4 %. Four fifths of the transformation output of petroleum products (79.3 %) was available for final consumption in 2003, with 84.2 % of this consumed as energy and 15.8 % for non-energy purposes.

In contrast, an analysis of the gross inland consumption of natural gas shows that a quarter (27.9 %) was taken for transformation, of which nearly all (94.5 %) was for use in conventional thermal power stations and the remainder in district heating plants. After consumption by the energy sector itself (4.2 %), the remaining 70.5 % of gross inland consumption was available for final consumption. Households (37.3 % of energy available for final consumption) and industry (39.5 %) were the main final users of natural gas. Only a small part was used by the chemical sector for non-energy purposes (4.5 %).

Figure 2.9**Main indicators for crude oil and petroleum products, EU-25 (million toe) (1)**

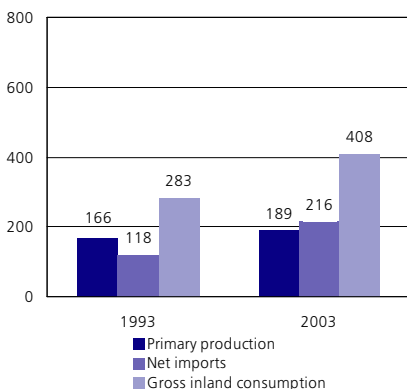
(1) Net imports and gross inland consumption for 2003, provisional.

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

PRODUCTION AND CONSUMPTION

EU-25 primary production of crude oil, petroleum products and gas was 334.5 million toe in 2003, of which gas accounted for more than half. Among the Member States, the United Kingdom was by far the largest producer of hydrocarbons in the EU, contributing 74.2 % of the EU-25's primary production of crude oil and petroleum products and 48.9 % of its natural gas in 2003. Denmark was the EU's second largest primary producer of crude oil and petroleum products with a 12.8 % share, while the Netherlands was the only other Member State to have a share of primary natural gas production in excess of 10 %, accounting for 27.6 % of EU-25 natural gas production in 2003.

As can be seen in Figures 2.9 and 2.10 the origin of supply of gross inland consumption is different for the two types of hydrocarbons, with net imports of natural gas exceeding primary production by just 14.1 %, while net imports of crude oil and petroleum products were 2.8 times higher than primary production in 2003. However, the importance of primary production of crude oil and petroleum products has remained relatively stable, between 21 % and 27 % of gross inland consumption in the 10 years to 2003. In contrast, the contribution of primary production to gross inland consumption for natural gas fell in eight of the 10 years between 1993 and 2003, from a 58.5 % share in 1993, below 50 % in 2002 (49.8 %), to 46.4 % in 2003.

Figure 2.10**Main indicators for natural gas, EU-25 (million toe)**

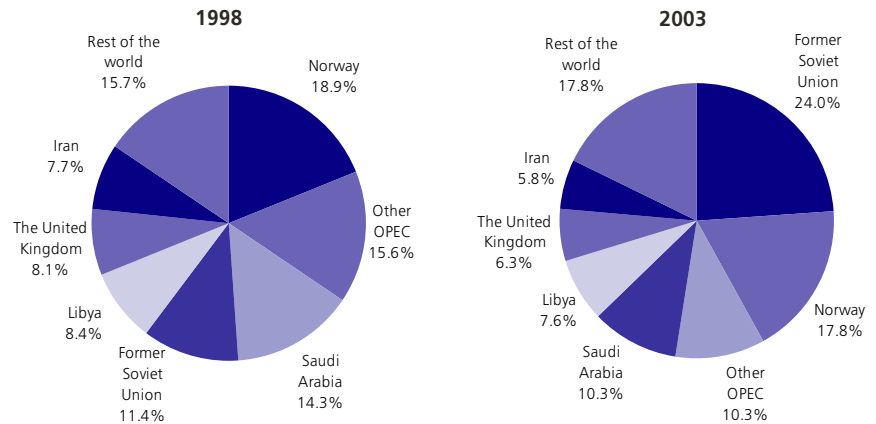
Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

EXTERNAL TRADE

The importance of crude oil imports for the EU has already been noted with respect to production and consumption. The EU-25's exports of crude oil and feedstocks were relatively small compared with imports, and the negative trade balance (net imports) in 2003 was similar to that five years earlier, with imports 6.4 times higher than exports in 2003. For petroleum products the level of exports and imports was much closer, although the EU-25 ran a deficit of between 12 and 35 million tonnes each year during the period from 1993 to 2003. The trade situation for natural gas was similar to that for crude oil, with imports several times (4.7) higher than exports; the trade deficit in natural gas widened every year between 1993 and 2003 except for 2001.

Considering both intra- and extra-EU trade flows, the countries of the former Soviet Union were the most important suppliers of crude oil to the EU-25 in 2003, overtaking both Norway and Saudi Arabia when compared with the situation five years earlier. The only Member State among the top suppliers was the United Kingdom. Collectively OPEC provided 34.1 % of the EU-25's crude oil imports in 2003, notably less than their 46.0 % share in 1998 - see Figure 2.11.

Figure 2.11
Crude oil
Sum of EU-25 Member States: origin of imports



Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

2.2: COAL AND COKE

This subchapter covers the mining and extraction of hard coal, lignite and peat (NACE Division 10), and the manufacture of coke oven products (NACE Group 23.1).

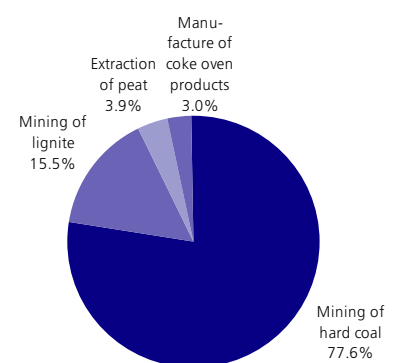
Over several decades the EU's coal mining industry has been in decline due to competition from coal imports and the substitution of other fuels to produce electricity, the latter stimulated recently in part by efforts to reduce emissions. However, enlargement in 2004 brought two large producers of coal into the EU, namely the Czech Republic and Poland. In these Member States coal accounts for a large part of electricity generation and is a major source of CO₂ emissions. Nevertheless, these Member States have also seen a restructuring of their coal mining activities with mines closed and a large number of workers laid off.

STRUCTURAL PROFILE

Mining and processing of coal and lignite (NACE Division 10 and NACE Group 23.1) generated EUR 10.5 billion of value added in the EU-25 in 2001. Figure 2.12 shows that the mining of hard coal dominated this activity. Employment in this sector in the EU-25 in 2001 was 354 900, of which 269 600 were occupied in the mining of hard coal (NACE Group 10.1).

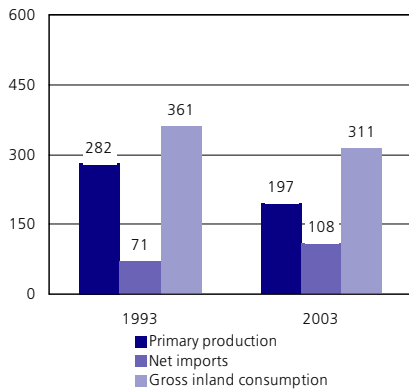
These activities are important in the Polish economy, particularly in employment terms: the mining of hard coal and lignite (NACE Groups 10.1 and 10.2) employed 166 400 persons in Poland in 2002, approximately three times higher than in any other Member State. The mining of hard coal, lignite and peat (NACE Division 10) employed 61 400 persons in Germany, 41 600 persons in the Czech Republic, 11 100 persons in the United Kingdom, and 7 300 persons in Slovakia in 2002.

Figure 2.12
Mining of coal and lignite; extraction of peat (NACE Division 10) and manufacture of coke oven products (NACE Group 23.1)
Breakdown of sectoral value added, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 2.13
Main indicators for hard coal and lignite, EU-25 (million toe)



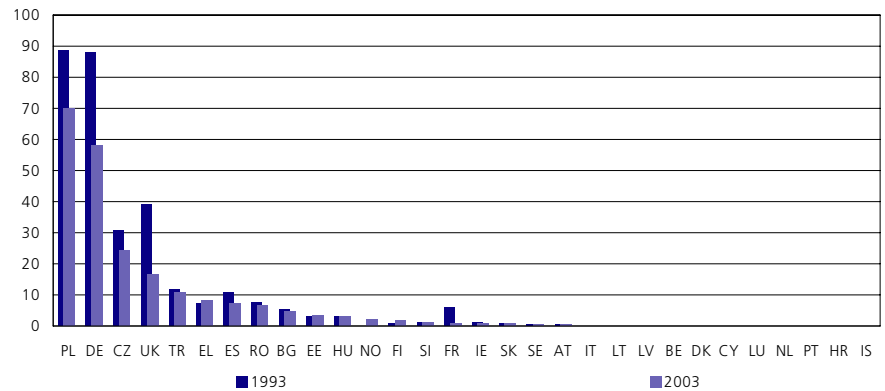
Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Hard coal and lignite products

Figure 2.13 shows the shift in the supply of gross inland consumption of hard coal and lignite between 1993 and 2003, with primary production in the EU-25 falling by close to one third (-30.3 %) over the period. This was accompanied by a relatively large increase (52.5 %) in net imports. Overall gross inland consumption of hard coal and lignite fell by 13.8 % to reach 311.2 million toe in 2003.

Poland contributed 31.8 % of the EU-25's primary production, Germany 26.3 % and the Czech Republic 11.0 %, with no other Member State reporting a double-digit share. Germany's share of EU-25 primary production of lignite alone was 53.8 % and Poland's share of primary production of hard coal was 46.7 %.

Figure 2.14
Primary production of hard coal and lignite (million toe)



Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

As can be seen from Figure 2.14 primary production of hard coal and lignite fell in every Member State between 1993 and 2003. By 2003 all production had ceased in Portugal and had practically ceased in Latvia, bringing to seven the number of Member States with no primary production. Among the smaller producers, France recorded the largest fall in production in relative terms between 1993 and 2003, output dropping from 5.9 to 1.0 million toe. Among the medium-sized and large producers, Spain (-36.8 %), Germany (-34.0 %), the Czech Republic (-21.4 %) and Poland (-21.1 %) all recorded a fall in production of between 20 % and 40 %, while the United Kingdom recorded a decline of 57.8 %.

Table 2.5
Hard coal and lignite
Trade indicators, sum of EU-25 Member States

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Exports (million tonnes)	43.9	49.2	52.6	47.5	48.1	49.6	43.4	44.0	51.7	42.2	36.4
Imports (million tonnes)	153.6	155.9	163.4	166.2	171.4	175.0	170.6	187.5	210.3	197.0	205.6
Trade balance (million tonnes)	-109.7	-106.7	-110.7	-118.7	-123.4	-125.4	-127.2	-143.5	-158.6	-154.7	-169.2
Cover ratio (%)	28.6	31.5	32.2	28.6	28.0	28.3	25.4	23.5	24.6	21.4	17.7

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Figure 2.15 shows the shift in the origin of the EU-25's imports of hard coal in the five years between 1998 and 2003. Most notable was the considerable fall in the share of imports from the United States, which had been the second largest provider in 1998 and whose share fell from 16.6 % to 5.7 %. Both South Africa and Australia increased their shares of the EU-25's imports between 1998 and 2003 to become the two most important sources, while the increase in imports from the countries of the former Soviet Union was also significant, their share jumping from 1.4 % to 9.9 %.

The vast majority of hard coal and lignite was consumed as a transformation input in 2003, 87.3 % of hard coal and 98.2 % of lignite. Most of this was used in conventional thermal power stations, although over one fifth (21.5 %) of the hard coal that was transformed was used as input in coke oven plants.

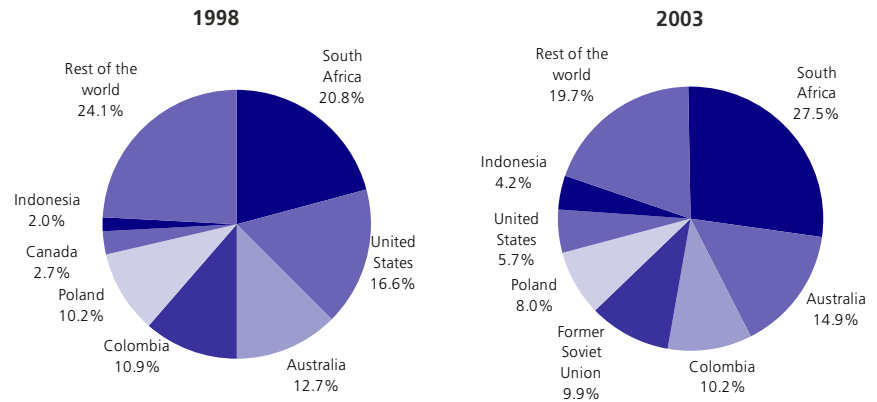
Energy available for final consumption in 2003 was just 12.3 % of gross inland consumption for hard coal and 1.4 % in the case of lignite. Around three fifths of this was consumed by industry and one fifth by households. The consumption of hard coal and lignite by households fell from 19.1 million toe in 1993 to just 6.4 million toe in 2003.

Coal and lignite derivatives

The part of hard coal and lignite consumption that is not used in conventional thermal power stations is mainly transformed into solid derivatives, namely coke, patent fuels and brown coal briquettes. The gross inland consumption (including net imports and stock changes) of these products in the EU-25 in 2003 was just 3.1 million toe. By comparison, the transformation output of these products was 35.8 million toe, of which 91.1 % was coke. Furthermore, gases derived from coke ovens, blast-furnaces and gasworks generated 21.9 million toe, mainly blast furnace and coke oven gas. A large proportion of these derived products were further transformed, notably coke used in blast furnaces, and coke oven and gaswork gases, which are used as input for power stations.

The energy available for final consumption in the EU-25 was 24.7 million toe from solid derivatives and 8.7 million toe from derived gases. Nine tenths of this energy from solid derivatives was consumed by industry, although almost all patent fuels were consumed by households. Of the energy available for final consumption from coke oven and blast furnace gases, some 95.6 % was consumed by the iron and steel sector.

Figure 2.15
Hard coal
Sum of EU-25 Member States: origin of imports



Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

2.3: NUCLEAR FUELS; ELECTRICITY GENERATION AND DISTRIBUTION; STEAM AND HOT WATER SUPPLY

This subchapter covers firstly activities related to nuclear fuels in the form of mining of uranium and thorium ores (NACE Division 12) and the processing of nuclear fuels (NACE Group 23.3). Secondly it focuses on the production and distribution of electricity, whether generated from fossil, nuclear or renewable fuels (NACE Group 40.1). Finally, it covers steam and hot water supply (NACE Group 40.3), normally for district heating, known also as city heating.

Nuclear energy has for a long time been beleaguered by concerns about safety and waste: a number of Member States postponed or cancelled new nuclear power stations and adopted policies to phase out existing ones. However, the benefits of nuclear fuel have been boosted as concerns about the security of energy supply have risen along with the increase in EU imports of oil and gas (see Subchapter 2.1), while at the same time Member States have committed themselves to reduce emissions. Evidence of this new impetus is the construction of a fifth nuclear reactor in Finland at the Olkiluoto plant - it is expected to be in operation in 2009 - the first new reactor in Western Europe for many years. According to the Uranium Information Centre Ltd. and the World Nuclear Association the only other nuclear reactors under construction or planned in Europe are in Romania, Russia and the Ukraine, while there are proposals for reactors in the Czech Republic, France, Slovakia, Bulgaria, Romania and Turkey, all of whom except for Turkey already have nuclear reactors.

The development of an internal energy market has led to changes in the electricity sector, notably the unbundling of generation, transmission and distribution. One objective of the amended Electricity Directive and a regulation on cross-border exchanges in electricity was to facilitate access to networks and an open and efficient electricity market.

In 2001 the renewables Directive was adopted promoting the production of energy from renewable energy sources: a target of 22.1 % was set for the share of renewable energy sources in electricity consumption by 2010 – Figure 2.18 shows the targets and current contribution.

A European Commission proposal from 2003 concerning the security of electricity supply and infrastructure investment ⁽⁶⁾ is, at the time of writing, the subject of discussions in the Council and Parliament. The proposal concerns reserve capacity and/or demand measures. It also sets out a number of obligations with respect to infrastructure investment for the operation of the internal market, including efforts to increase investment in connections between countries. The European Commission's proposal came in the wake of major black-outs seen in most of Italy and a small part of Switzerland in September 2003 and black-outs in August 2003 in London, eastern Denmark and southern Sweden, and the north-east of the USA and Canada.

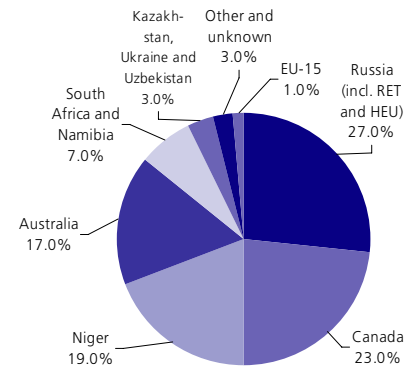
Nuclear fuels

According to the Euratom supply agency, preliminary figures indicate that worldwide natural uranium production in 2004 was 40 475 tU (Tonnes of contained Uranium). The mining of uranium and thorium ores (NACE Division 12) in the EU-25 is a very small activity, with only one operating uranium mine in the EU during 2004, in the Czech Republic. According to the Euratom supply agency this mine is expected to cease commercial operation at the end of 2005, although some residual uranium production will continue until 2006. According to the same source, EU-15 production supplies less than 1 % of the requirements of the EU-15's utilities, mainly from stocks or clean-up operations at closed mines. Russia and Canada were the largest suppliers of uranium to EU-15 utilities in 2002 - see Figure 2.16.

The processing of nuclear fuel (NACE Group 23.3) is a much larger activity, employing 30 800 persons in 2002 in the EU-25, of which approximately half were employed in the United Kingdom and one third in France. There was little or no nuclear fuel processing activity in the vast majority of Member States. Value added by the nuclear fuels processing sector in the EU-25 was EUR 3.2 billion in 2002.

⁽⁶⁾ COM (2003) 740.

Figure 2.16
Origin of natural uranium deliveries (in tonnes) to EU-15 utilities, 2004



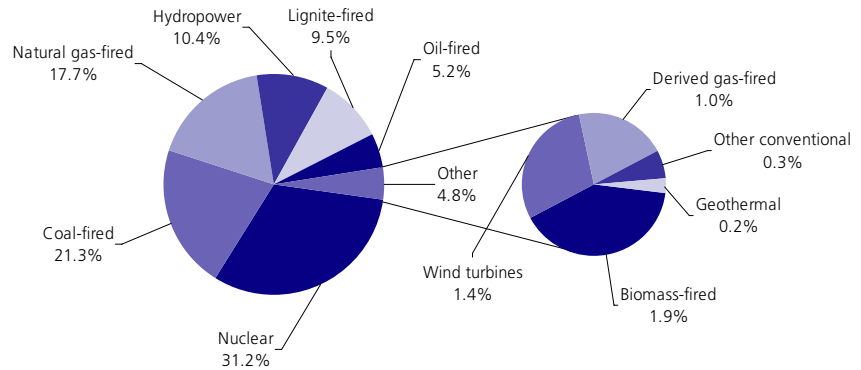
Source: Euratom supply agency, annual report 2004

Electricity generation and distribution

Gross electricity generation is the electricity measured at the outlet of the main transformers, in other words, including the consumption of electricity in plant auxiliaries and in transformers. Gross electricity generation in the EU-25 in 2003 was 3 120 TWh. Just over half of this was generated in conventional thermal power stations (53.6 %) and just under one third (31.2 %) in nuclear power stations. Among the remaining 15.2 % the largest part was generated in hydroelectric power plants (10.4 %), biomass-fired power stations (1.9 %) and wind turbines (1.4 %) - see Figure 2.17. Figure 2.18 shows the contribution of electricity generation from wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases (the renewable energy sources) to gross national electricity consumption (gross national electricity generation from all fuels plus net electricity imports). Several of the Member States recorded a large increase in the contribution of renewables in the 10 years to 2003, with the share more than doubling in Denmark (from 4.8 % to 23.2 %) and in the Netherlands (from 1.8 % to 4.7 %). However, more than half the Member States recorded no change or even a fall in the contribution of renewables over this period.

Figure 2.17

Gross electricity generation by type of power plant, EU-25, 2003 (1)



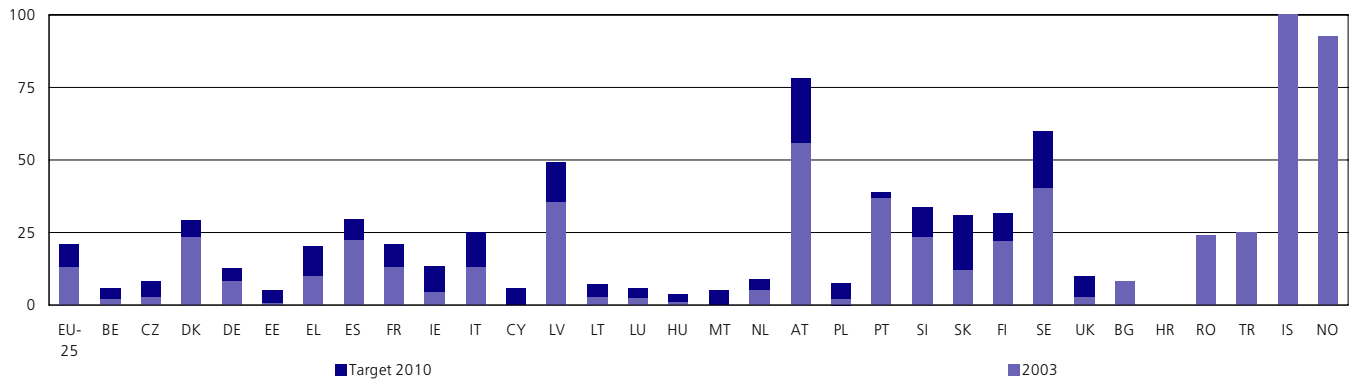
(1) Provisional.

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Within Europe there are some movements of electricity across borders, a characteristic highlighted in a number of the black-outs in summer/autumn 2003. Some Member States are particularly dependent on external sources for their electricity supply, for example, Luxembourg, where the level of net imports exceeds gross electricity generation - see Figure 2.19. Among the larger Member States, only France and Poland are major net exporters of electricity.

Figure 2.18

Contribution of electricity from renewables to total electricity consumption, 2003 and target for 2010 (%) (1)

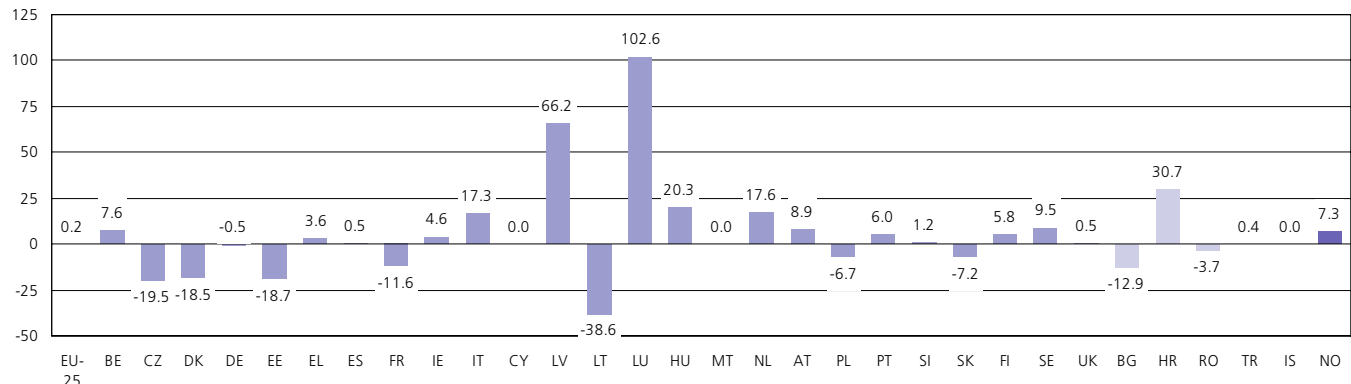


(1) Croatia, not available; target 2010 only for EU-25 Member States.

Source: Eurostat, Structural indicators

Figure 2.19

Net electricity imports relative to gross electricity generation, 2003 (%) (1)



(1) A negative sign indicates net exports.

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Steam and hot water supply

District heating is the distribution of heat through a network to one or several buildings using hot water or steam produced centrally, often from cogeneration plants, from waste heat from industry, or from dedicated heating systems. Large scale district heating in Europe is commonly found in central and eastern Europe and in the Nordic countries.

Data availability for this activity is generally quite weak. Among the Member States with data available for 2002, the highest value added was recorded in France and Germany, both EUR 1.1 billion. The Czech Republic and Denmark both recorded value added of around EUR 0.5 billion, and in these countries as well as Estonia and Lithuania this activity contributed between a quarter and one fifth of value added in the supply of electricity, gas, steam and hot water sector.

The importance of this activity in a number of the Member States that joined the EU in 2004 was even more apparent from the employment data. Some 17 000 persons were employed in this activity in the Czech Republic, the second largest workforce in this activity in the EU-25 among the countries with available data after France (19 500 persons employed), while Lithuania (8 600 persons employed), and Estonia (2 900 persons employed), like the Czech Republic, saw this activity account for one third or more of the supply of electricity, gas, steam and hot water sector's workforce.

Table 2.6
Steam and hot water supply
(NACE Group 40.3)
Main indicators, 2002

	Value added (EUR million)	Number of persons employed (units)
EU-25	:	:
BE	:	:
CZ	495	16 957
DK	495	2 953
DE	1 140	11 340
EE	39	2 898
EL	:	:
ES	51	1 226
FR	1 119	19 545
IE	0	0
IT	61	1 684
CY	0	0
LV	:	:
LT	104	8 555
LU	:	:
HU	164	7 615
MT	0	0
NL	:	:
AT	232	1 979
PL	:	:
PT	4	72
SI	21	885
SK	:	:
FI	84	701
SE	:	:
UK	:	:

Source: Eurostat, Structural Business Statistics
(Industry, Construction, Trade and Services),
Annual enterprise statistics

Table 2.9
Interior flows of gas, 2003 (thousand toe)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU
Primary production	189 392	0	131	7 203	15 920	-	31	197	1 282	544	11 372	:	-	-	-	2 286
Net imports	216 160	14 243	7 698	-2 594	62 437	680	2 002	21 168	37 599	3 133	50 849	:	1 406	2 384	1 064	9 940
Gross inland consumption	408 081	14 402	7 842	4 661	79 208	680	2 026	21 353	39 382	3 677	63 353	:	1 347	2 384	1 064	11 886
Transformation input	122 328	4 408	1 877	2 317	19 869	419	1 484	5 642	4 485	2 351	22 285	:	852	1 277	431	3 671
-conventional thermal power stations	115 804	4 408	1 292	2 234	18 696	227	1 484	5 642	4 485	2 351	22 285	:	548	883	431	3 134
Transformation output	21 897	1 322	1 530	0	5 210	127	0	935	2 269	0	1 253	:	-	-	0	250
Consumption of the energy branch	17 078	262	413	629	1 459	28	32	237	704	0	366	:	21	11	-	172
Distribution losses	2 862	-	162	3	355	0	1	135	214	48	305	:	18	24	0	335
Available for final consumption	287 711	11 054	6 921	1 711	62 736	359	509	16 274	36 247	1 277	41 650	:	456	1 071	633	7 959
Final non-energy consumption	12 899	845	-	-	2 164	85	124	491	2 154	0	930	:	-	633	-	219
Final energy consumption	275 168	10 310	6 913	1 711	61 229	274	385	15 683	34 056	1 277	40 720	:	456	438	633	7 596
	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	NO
Primary production	:	52 212	1 776	3 611	-	4	180	-	-	92 644	13	1 789	10 429	461		66 290
Net imports	:	-16 204	5 948	7 499	2 643	902	5 501	4 084	799	-7 022	2 356	651	4 676	17 283		-60 926
Gross inland consumption	:	35 998	7 555	11 261	2 636	907	5 682	4 084	799	85 893	2 501	2 356	15 169	17 721		5 364
Transformation input	:	12 155	2 757	1 654	1 409	147	1 426	3 164	538	27 710	1 052	633	4 784	11 444		56
-conventional thermal power stations	:	12 155	2 575	1 330	1 409	75	803	2 845	466	26 047	781	575	3 909	11 444		49
Transformation output	:	1 350	874	2 535	0	0	911	592	646	2 093	372	13	815	1 281		27
Consumption of the energy branch	:	1 376	546	2 071	0	4	1 032	288	97	7 328	237	134	1 569	380		3 205
Distribution losses	:	0	164	282	21	-	153	0	38	604	81	82	532	45		-
Available for final consumption	:	23 817	4 961	9 789	1 207	755	3 983	1 224	773	52 344	1 502	1 519	9 099	7 132		2 130
Final non-energy consumption	:	2 126	267	1 869	-	123	3	43	-	825	423	377	560	382		520
Final energy consumption	:	21 691	4 694	7 912	1 206	632	3 874	1 170	736	51 568	1 067	1 141	8 528	6 710		196

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Table 2.10
Interior flows of electricity, 2003 (thousand toe)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU
Net imports	405	551	-1 394	-735	-281	-163	180	109	-5 675	100	4 382	-	226	-647	318	597
Gross inland consumption	405	551	-1 394	-735	-281	-163	180	109	-5 675	100	4 382	-	226	-647	318	597
Transformation output	236 599	7 155	7 002	3 498	47 822	872	4 482	17 789	43 137	2 049	21 335	348	143	1 591	229	2 921
-conventional thermal power stations	152 878	3 081	4 777	3 498	33 629	872	4 482	12 469	5 212	2 049	21 335	348	143	260	229	1 974
-nuclear power stations	83 721	4 074	2 225	-	14 193	-	-	5 320	37 925	-	0	-	-	1 331	-	947
Exchanges, transfers, returns	28 756	29	119	480	3 278	2	498	4 568	5 163	90	3 030	-	199	28	9	15
Consumption of the energy branch	23 955	561	786	269	4 711	129	555	1 613	4 780	127	1 935	21	45	237	26	468
Distribution losses	17 289	323	437	185	2 319	102	426	1 937	2 726	174	1 794	14	78	121	13	365
Available for final consumption	224 516	6 851	4 504	2 789	43 789	479	4 178	18 916	35 119	1 939	25 018	313	445	614	517	2 700
Final energy consumption	224 552	6 851	4 504	2 785	43 789	479	4 178	18 916	35 119	1 980	25 018	313	445	614	517	2 700
	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	NO
Net imports	-	1 461	483	-874	240	14	-194	417	1 103	186	-472	335	-179	49	-	677
Gross inland consumption	-	1 461	483	-874	240	14	-194	417	1 103	186	-472	335	-179	49	-	677
Transformation output	192	8 201	2 102	12 744	2 606	934	2 365	6 410	7 022	33 652	3 379	665	3 731	9 045	121	82
-conventional thermal power stations	192	7 855	2 102	12 744	2 606	486	829	4 455	1 225	26 026	1 893	665	3 309	9 045	121	82
-nuclear power stations	-	345	-	-	-	448	1 536	1 955	5 797	7 626	1 486	-	422	-	-	-
Exchanges, transfers, returns	-	121	3 156	154	1 395	271	299	833	4 630	388	255	419	1 140	3 043	609	9 090
Consumption of the energy branch	11	784	268	2 339	195	93	330	412	698	2 561	490	89	947	579	40	215
Distribution losses	25	368	255	1 230	334	50	167	296	899	2 650	518	219	523	2 068	44	782
Available for final consumption	156	8 630	5 217	8 456	3 711	1 077	1 974	6 951	11 158	29 015	2 153	1 111	3 221	9 490	646	8 853
Final energy consumption	156	8 629	5 217	8 456	3 711	1 077	1 974	6 951	11 158	29 015	2 153	1 111	3 221	9 490	646	8 853

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Table 2.11
Interior flows of other energy sources, 2003 (thousand toe)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU
NUCLEAR ENERGY																
Primary production	251 163	12 222	6 674	:	42 578	:	:	15 961	113 776	:	0	:	:	3 994	:	2 841
DERIVED HEAT (1)																
Transformation output	52 936	504	3 514	3 105	17 045	611	24	0	:	:	:	:	801	1 058	47	1 523
-conventional thermal power stations	38 636	504	2 675	2 529	15 126	247	24	0	:	:	:	:	361	499	47	1 037
Consumption of the energy branch	2 458	-	369	25	278	12	-	-	:	:	:	:	22	54	-	161
Distribution losses	3 582	40	493	618	1 329	110	-	-	:	:	:	:	137	206	-	-
Available for final consumption	46 899	464	2 653	2 465	15 438	490	24	0	:	:	:	:	641	799	47	1 362
RENEWABLE ENERGIES																
Primary production	103 112	896	1 247	2 590	11 582	610	1 549	9 412	17 368	261	10 088	37	1 973	705	60	920
Transformation input	26 280	574	294	1 500	2 744	94	31	1 166	2 140	19	5 960	-	303	122	36	102
-conventional thermal power stations	23 206	540	246	1 069	2 622	5	31	1 166	1 860	19	5 960	-	25	18	36	91
Exchanges, transfers, returns	-28 792	-29	-119	-480	-3 307	-1	-498	-4 572	-5 164	-90	-3 031	-	-199	-28	-9	-15
Available for final consumption	48 195	453	799	762	5 408	424	1 021	3 671	10 021	152	1 778	37	957	556	16	803
	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	NO
NUCLEAR ENERGY																
Primary production	:	1 036	:	:	:	1 343	4 608	5 864	17 390	22 877	4 457	:	1 266	:	:	:
DERIVED HEAT																
Transformation output	:	2 746	1 325	8 795	226	228	1 326	4 043	4 217	1 797	1 287	313	3 615	:	232	258
-conventional thermal power stations	:	2 746	856	5 384	226	157	674	3 079	2 467	0	984	231	2 674	:	204	90
Consumption of the energy branch	:	-	0	1 405	-	6	123	-	0	2	203	21	490	:	-	15
Distribution losses	:	0	30	-	-	33	178	254	154	-	170	39	705	:	23	53
Available for final consumption	:	2 746	1 295	7 390	226	189	1 026	3 789	4 063	1 794	914	254	2 419	:	209	190
RENEWABLE ENERGIES																
Primary production	:	2 041	6 675	5 080	4 300	731	632	7 874	13 378	3 105	946	800	4 061	10 036	2 457	10 555
Transformation input	:	1 564	925	156	446	36	59	2 294	3 597	2 119	0	0	16	112	1 221	252
-conventional thermal power stations	:	1 564	535	130	446	27	47	2 108	2 602	2 060	-	0	2	112	1 197	145
Exchanges, transfers, returns	:	-123	-3 158	-154	-1 395	-271	-299	-833	-4 630	-388	-255	-419	-1 140	-3 043	-609	-9 090
Available for final consumption	:	354	2 574	4 764	2 459	423	268	4 748	5 150	598	682	381	2 839	6 881	576	1 264

(1) EU-25, Germany and Spain, provisional.

Source: Eurostat - Environment and energy, Energy, Energy Statistics (ES) - quantities

Table 2.12

Mining, quarrying and processing of energy materials, energy and water supply, transport via pipelines
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
MINING AND QUARRYING OF ENERGY PRODUCING MATERIALS (NACE Subsection CA) (1)																	
Value added at factor cost (EUR million) (2)	57 641	9 788	3 797	4 477	50	:	774	342	138	4 703	0	14	50	0	41	0	
Gross investment in tangible goods (EUR million)	:	9 244	707	587	22	:	137	158	8	847	0	5	15	:	10	0	
Number of persons employed (thousands)	404	0 46	2 67	5	:	15	8	1	14	0	1	2	0	2	0		
Wage adjusted labour productivity (%) (2)	468	231	155	3 137	125	126	:	134	56	246	554	:	217	458	:	153	:
MANUFACTURE OF COKE, REFINED PETROLEUM PRODUCTS AND NUCLEAR FUEL (NACE Division 23)																	
Value added at factor cost (EUR million) (3)	29 069	1 274	74	:	4 384	7	:	3 898	3 748	:	2 146	14	:	80	0	756	:
Gross investment in tangible goods (EUR million) (4)	:	173	59	:	602	2	:	337	889	:	570	1	:	44	:	151	:
Number of persons employed (thousands) (4)	176	6	3	:	24	1	:	8	30	:	18	0	0	4	0	10	:
Wage adjusted labour productivity (%) (5)	277	284	186	:	222	156	:	830	156	:	217	:	:	170	:	331	:
ELECTRICITY, GAS, STEAM AND HOT WATER SUPPLY (NACE Division 40) (6)																	
Value added at factor cost (EUR million) (5)	144 438	5 119	2 449	2 251	31 411	168	:	10 578	26 442	:	14 826	:	389	393	149	1 561	:
Gross investment in tangible goods (EUR million)	:	305	824	895	7 441	211	:	5 223	5 688	:	4 278	:	166	195	:	765	:
Number of persons employed (thousands)	1 181	19	50	13	244	8	:	35	166	:	108	:	17	24	1	41	:
Wage adjusted labour productivity (%) (7)	280	305	410	496	216	272	:	541	264	:	295	:	361	293	270	264	:
TRANSPORT VIA PIPELINES (NACE Group 60.3)																	
Value added at factor cost (EUR million)	2 908	14	:	:	198	0	:	0	173	:	1 396	0	:	0	0	0	0
Gross investment in tangible goods (EUR million)	:	4	:	:	86	0	:	0	20	:	323	0	:	0	:	0	0
Number of persons employed (thousands)	10	:	:	:	1	0	:	0	1	:	3	0	:	0	0	0	0
Wage adjusted labour productivity (%)	695	:	:	:	541	:	:	:	271	:	905	:	:	:	:	94	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
MINING AND QUARRYING OF ENERGY PRODUCING MATERIALS (NACE Subsection CA)																	
Value added at factor cost (EUR million)	4 977	161	:	:	:	124	122	39 27 880	116	:	64	:	:	:	33 186	:	
Gross investment in tangible goods (EUR million)	:	43	:	:	:	26	37	9 8 181	30	:	689	:	:	:	836	:	
Number of persons employed (thousands)	7	1	:	:	:	9	1	1 37	20	:	134	:	:	:	30	:	
Wage adjusted labour productivity (%)	1 025	427	:	:	:	226	281	163 817	134	:	9	:	:	:	:	:	
MANUFACTURE OF COKE, REFINED PETROLEUM PRODUCTS AND NUCLEAR FUEL (NACE Division 23) (8)																	
Value added at factor cost (EUR million)	1 286	:	4 077	379	:	:	600	240 4 111	:	:	:	:	:	:	0	:	
Gross investment in tangible goods (EUR million) (9)	343	:	257	121	:	:	47	137 906	48	:	:	:	:	:	0	:	
Number of persons employed (thousands)	6	:	18	2	:	:	4	2 28	:	:	:	:	:	:	0	:	
Wage adjusted labour productivity (%)	225	:	822	288	:	:	275	172 234	:	:	:	:	:	:	:	:	
ELECTRICITY, GAS, STEAM AND HOT WATER SUPPLY (NACE Division 40)																	
Value added at factor cost (EUR million)	4 332	4 079	7 106	2 688	205	1 232	2 176	4 896 18 212	658	:	1 003	:	:	:	:	6 246	
Gross investment in tangible goods (EUR million) (10)	916	870	2 000	913	157	649	568	1 970 5 540	220	:	2 363	:	:	:	523	:	
Number of persons employed (thousands)	24	30	178	13	8	33	14	23 97	42	:	115	:	:	:	15	22	
Wage adjusted labour productivity (%)	310	226	172	421	118	442	359	411 366	300	:	173	:	:	:	:	:	
TRANSPORT VIA PIPELINES (NACE Group 60.3) (11)																	
Value added at factor cost (EUR million)	:	:	:	:	0	:	0	1 131	:	:	:	:	:	:	0	:	
Gross investment in tangible goods (EUR million)	2	:	:	:	0	:	0	1 50	:	:	:	:	:	:	0	:	
Number of persons employed (thousands)	0	:	:	:	0	:	0	0 0	:	:	:	:	:	:	0	:	
Wage adjusted labour productivity (%)	:	:	:	:	:	:	:	115 761	:	:	:	:	:	:	:	:	

(1) EU-25, 2001. (2) Belgium and Latvia, 2001. (3) Belgium and Cyprus, 2001. (4) Cyprus, 2001. (5) Belgium, 2001. (6) Latvia and Switzerland, 2001.

(7) EU-25 and Belgium, 2001. (8) Norway, 2001. (9) Bulgaria, 2001. (10) The Netherlands, 2001. (11) The Netherlands, Sweden and Norway, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Please note that on the accompanying CD-ROM, data for the number of persons employed in Table 2.12 for Bulgaria, Romania, Norway and Switzerland are in units and not in thousands.

Non-energy mining and quarrying



Industrial and construction minerals are often further processed in downstream industrial sectors, for example, in the manufacture of glass, concrete, and basic or agricultural chemicals, as well as being used directly in the construction sector. Minerals are also used in industrial processes as absorbents, filters, lubricating agents and for polishing. Precious and semi-precious stones are used in jewellery and for some industrial processes.

The mining of metal ores is a relatively small activity within the EU-25 and faces strong competition from large-scale operations in non-Community countries with lower cost bases; as a result, metal processing sectors within the EU rely heavily on imports.

In June 2003 the Commission adopted a proposal (COM(2003) 319) for a directive of the European Parliament and of the Council on the management of waste from extractive industries, and at the time of writing this is the subject of discussions in the European Parliament and Council.

STRUCTURAL PROFILE

The non-energy mining and quarrying sector (NACE Subsection CB) employed 267 200 persons in the EU-25 in 2001. This sector accounted for 0.7 % of industrial (NACE Sections C to E) employment and 39.8 % of employment in all mining and quarrying activities (NACE Section C) in the EU-25. Employment in the mining of metal ores (NACE Division 13) was 33 900 in the EU-25 in 2001, equivalent to 12.7 % of the sector's workforce, while there were 228 100 persons employed in the other mining and quarrying (NACE Division 14) subsector in 2002. Non-energy mining and quarrying generated EUR 13.8 billion of value added in the EU-25 in 2001, 0.8 % of industrial value added and 19.4 % of mining and quarrying value added, less than half this sector's share of mining and quarrying employment. In 2001, the mining of metal ores accounted for 9.8 % of sectoral value added in the EU-25, while other mining and quarrying generated the remaining 90.2 %.

This chapter covers both underground and open-cast mining of ferrous and non-ferrous metal ores (NACE Division 13), as well as other mining and quarrying of non-energy producing materials (NACE Division 14), which includes the extraction of a variety of basic materials such as stone, sand, salt and other minerals. Together these NACE divisions make up NACE Subsection CB. Mineral prospecting is not covered by these activities.

NACE

- 13: mining of metal ores;
- 13.1: mining of iron ores;
- 13.2: mining of non-ferrous metal ores, except uranium and thorium ores;
- 14: other mining and quarrying;
- 14.1: quarrying of stone;
- 14.2: quarrying of sand and clay;
- 14.3: mining of chemical and fertilizer minerals;
- 14.4: production of salt;
- 14.5: other mining and quarrying n.e.c.

Table 3.1
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Mining and quarrying, except of energy producing materials (1)	13 844.1	0.8	267.2	0.7
Mining of metal ores (1)	1 354.6	0.1	33.9	0.1
Mining of iron ores (1)	247.1	0.0	4.8	0.0
Mining of non-ferrous metal ores, except uranium and thorium ores (1)	1 107.5	0.1	29.1	0.1
Other mining and quarrying	12 419.0	0.7	228.1	0.6
Quarrying of stone (1)	2 568.1	0.1	65.0	0.2
Quarrying of sand and clay	8 066.0	0.5	134.6	0.4
Mining of chemical and fertilizer minerals	236.0	0.0	6.6	0.0
Production of salt	618.0	0.0	9.7	0.0
Other mining and quarrying n.e.c.	684.0	0.0	11.9	0.0

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

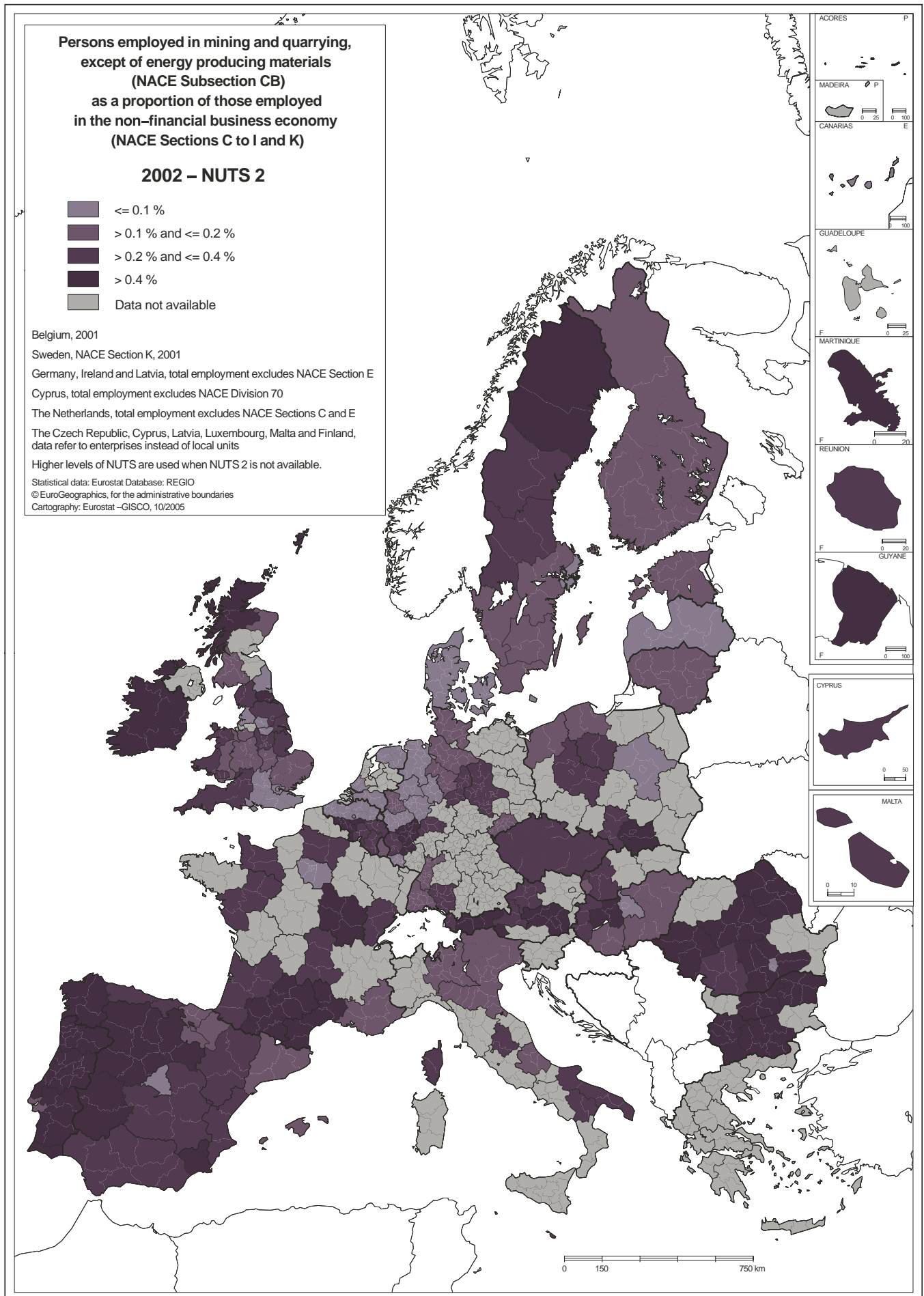
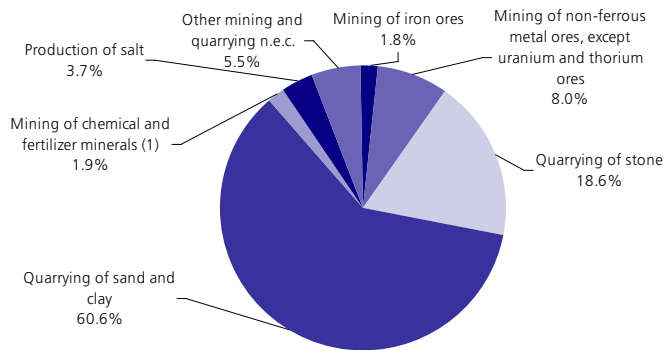


Figure 3.1
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Breakdown of sectoral value added, EU-25, 2001 (%)



(1) Informa estimate.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

In value added terms the largest activity at the NACE group level within the EU-25's other mining and quarrying sector in 2001 was the quarrying of sand and clay (NACE Group 14.2) which generated three fifths (60.6 %) of sectoral value added. The quarrying of stone (NACE Group 14.1) accounted for just under one fifth (18.6 %) of sectoral value added, while the mining of non-ferrous metal ores (NACE Group 13.2) was the largest metal ore mining subsector with an 8.0 % share. Of the four remaining NACE groups in this sector only the miscellaneous category of other mining and quarrying not elsewhere classified (NACE Group 14.5) accounted for more than 5.0 % of the sector's value added - see Figure 3.1.

The importance of non-energy mining and quarrying in the industrial economy of a country is to some extent dependent on the existence of deposits, particularly for metal ores, and this is reflected in the fact that among the 18 Member States with available data ⁽¹⁾ for the mining of metal ores, 11 reported no employment in this NACE division. Figure 3.2 shows the relative importance of the non-energy mining and quarrying sector as a whole within the industrial economies of the Member States. In only five of the Member States with data available (note that data is not available for several Member States, among which Poland) did this sector contribute 1.0 % or more to industrial value added, and only in Cyprus did this contribution exceed 2.0 %. Among the relatively specialised Member States, Sweden stood out because of its relatively large metal ore mining activity which contributed 73.8 % of the value added in the Swedish non-energy mining and quarrying sector. In contrast, neither Cyprus nor Luxembourg had any metal ore mining activity at all, and the relatively high

⁽¹⁾ Ireland, Italy, the Netherlands and the United Kingdom, 2001; Belgium, Greece, Austria, Poland, Portugal, Slovenia and Finland, not available.

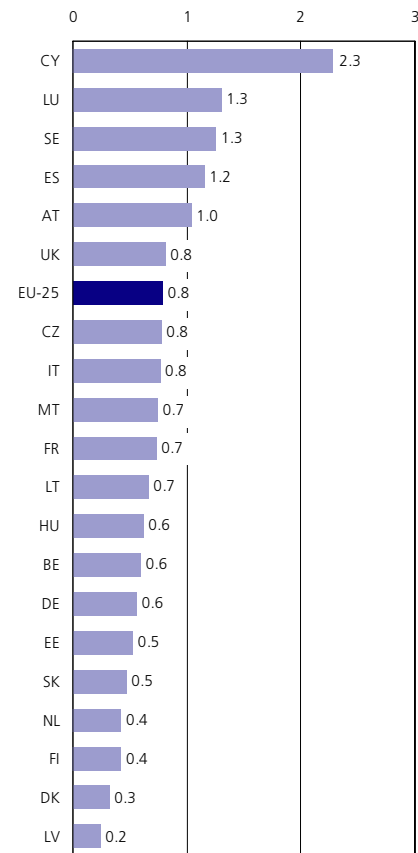
specialisation in the non-energy mining and quarrying sector in these two small Member States was entirely due to the other mining and quarrying subsector.

Table 3.2
Mining and quarrying except energy producing materials (NACE Subsection CB)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Largest value added (EUR billion) (1)	Largest number of persons employed (thousands) (2)
1	Germany (2.5)	Germany (35.2)
2	United Kingdom (2.2)	France (30.8)
3	France (1.7)	Italy (30.7)

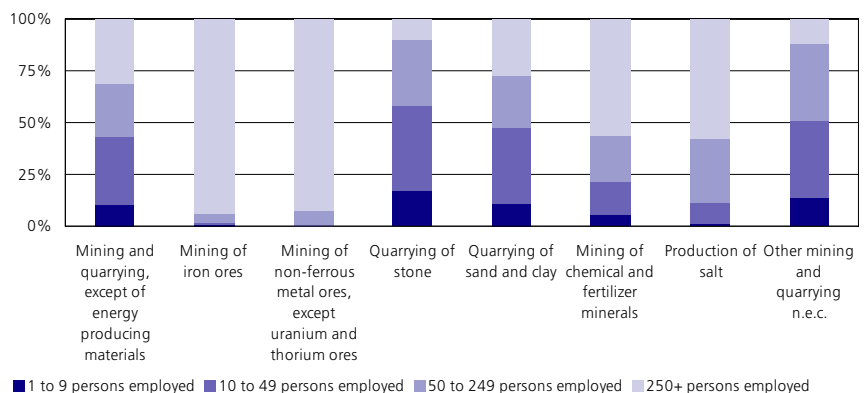
(1) Belgium and Latvia, 2001; Greece, Poland, Portugal and Slovenia, not available.
 (2) Greece, Poland, Portugal and Slovenia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 3.2
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Share of industrial value added, 2002 (%) (1)



(1) EU-25, Belgium and Latvia, 2001; Greece, Ireland, Poland, Portugal and Slovenia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

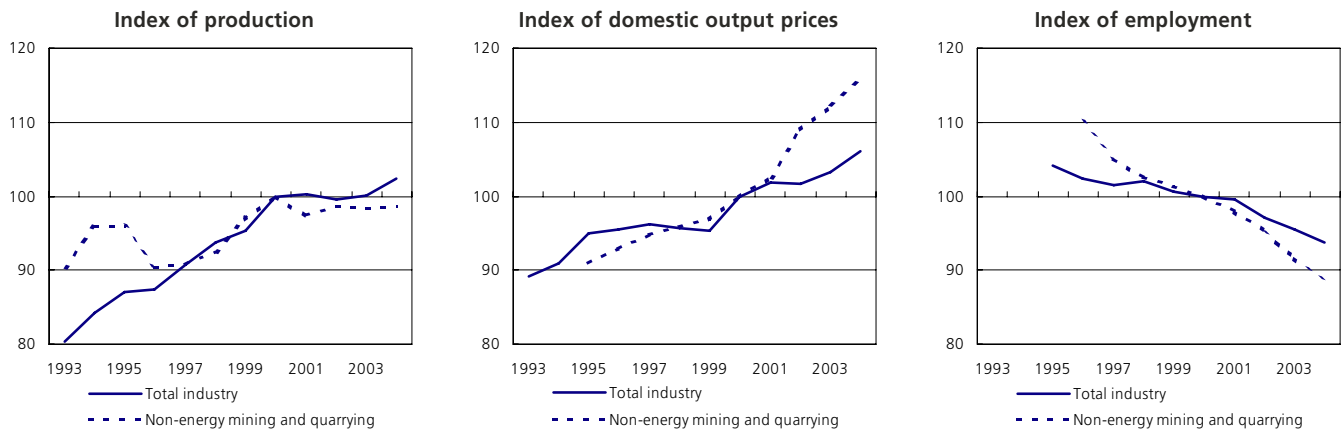
Figure 3.3
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Figure 3.4

Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The size of enterprises within the non-energy mining and quarrying sector varies enormously between activities. Metal ore mining is concentrated in only a few locations and this activity was characterised by a high dominance of large enterprises (with 250 or more persons employed) that collectively generated 92.8 % of this subsector's value added in the EU-25 in 2001; micro and small enterprises (with less than 50 persons employed) contributed less than 1 % of total value added; as such the size structure of this subsector resembled quite closely that seen for the mining of coal and lignite (NACE Division 10).

The local sourcing of many construction materials, resulting from widespread availability, relatively high transport costs and low barriers to entry, is reflected in the importance of smaller enterprises in related quarrying activities. Micro and small enterprises (with less than 50 persons employed) accounted for 58.4 % of value added in the quarrying of stone (NACE Group 14.1) and 47.5 % in the quarrying of sand and clay (NACE Group 14.2). In the case of stone quarrying, large enterprises generated just under 10 % of value added in this activity, the lowest proportion across any of the mining and quarrying NACE groups. On the other hand, the mining of chemical and fertiliser materials, and salt production (NACE Groups 14.3 and 14.4) were more reliant on large enterprises, although not to the same extent as metal ore mining; in both of these activities large enterprises generated more than half of the value added.

The EU-25 index of production for non-energy mining and quarrying indicates that output recovered during the second half of the 1990s from a low point in 1996. For four consecutive years output grew, averaging 2.6 % per annum. This was in contrast to the mining and quarrying of energy producing materials (NACE Subsection CA – see Chapter 2), where an average decline of 1.5 % per annum was registered over the same period. In 2001 this period of growth was reversed with a 2.6 % fall in the output of non-energy mining and quarrying, followed in 2002 by a more modest expansion of 1.3 % and then two years of stable output - see Figure 3.4. Unsurprisingly, as it dominates non-energy mining and quarrying, other mining and quarrying recorded a very similar development to the evolution of the production index for the whole of non-energy mining and quarrying sector. However, the mining of metal ores did not experience the same period of output growth during the second half of the 1990s. Instead, this activity recorded a decline of 3.3 % per annum in output between 1995 (the beginning of the series) and 2001. Since then however this activity's output grew in the EU-25 for three consecutive years, by 0.9 % in 2002, 2.4 % in 2003 and 4.7 % in 2004.

Output prices are available for the EU-25 for both parts of non-energy mining and quarrying. The activity of other mining and quarrying experienced uninterrupted year-on-year output price growth averaging 2.6 % per annum during the 10 years to 2004. For the mining of metal ores a shorter time series is available: prices fell 6.8 % in 2001, stabilised in 2002 (-0.3 %), rose moderately (3.7 %) in 2003 and jumped 35.0 % in 2004.

Since 1996 (start of the series), the EU-25 employment index for non-energy mining and quarrying fell by an average of 2.7 % per annum, more than twice as fast as the industrial average (-1.1 %). Nevertheless, this contraction in the non-energy mining and quarrying workforce was slower than that recorded for the mining and quarrying of energy producing materials, where the workforce contracted by an average of 7.2 % per annum over the same period.

EMPLOYMENT CHARACTERISTICS

Like nearly all mining and quarrying activities, the non-energy mining and quarrying workforce in the EU-25 was characterised by a relatively high reliance on full-time, male employment. According to the Labour Force Survey, 97.1 % of persons in this sector worked on a full-time basis in 2004, less than 1 percentage point below the mining and quarrying average (98.0 %), and 4.5 percentage points above the industrial (NACE Sections C to E) average (92.7 %). Aside from two of the NACE divisions within the mining and quarrying of energy producing materials, this full-time employment rate in the non-energy mining and quarrying workforce was higher than in any NACE division⁽²⁾ in the business economy (NACE Sections C to K). The EU-25's non-energy mining and quarrying workforce was 89.7 % male in 2004, some 1.5 percentage points higher than the mining and quarrying average and 18.7 percentage points higher than the industrial average; the only NACE division in the business economy with a workforce with a higher proportion of male employment was the construction sector (NACE Division 45).

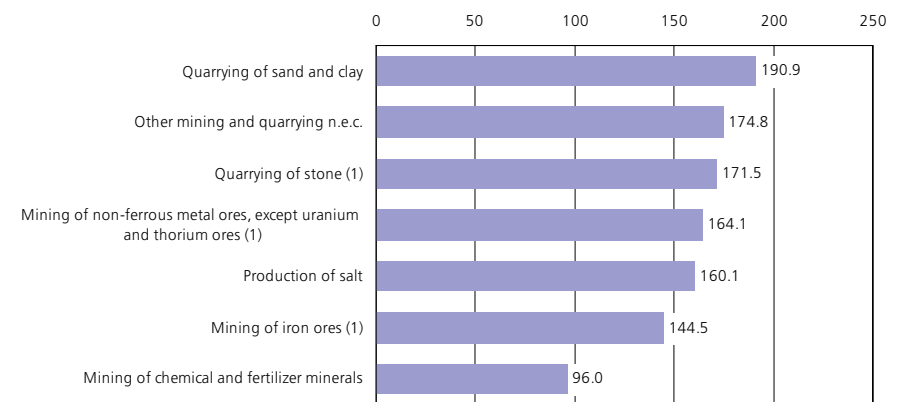
⁽²⁾ NACE Divisions 12 and 16, not available.

PRODUCTIVITY AND PROFITABILITY

The EU-25's non-energy mining and quarrying sector reported apparent labour productivity of EUR 51 800 per person employed in 2001, some EUR 3 100 higher than the industrial average. Metal ore mining (EUR 40 000) recorded lower apparent labour productivity than other mining and quarrying (EUR 53 500). Average personnel costs in 2001 were relatively low in the non-energy mining and quarrying sector, EUR 28 400 per employee in the EU-25, lower than the mining and quarrying average (EUR 29 700). The mining of metal ores recorded lower average personnel costs than other mining and quarrying, at EUR 25 000 per employee compared with EUR 28 900.

The wage adjusted labour productivity ratio shows the relationship between the two previous measures, and indicates that apparent labour productivity in the EU-25's non-energy mining and quarrying sector was equivalent to 182.7 % of the average personnel costs in 2001. Although this was only half the average for the whole of mining and quarrying (359.2 %), that average was influenced by the very high values recorded for crude oil and natural gas extraction: the wage adjusted labour productivity ratio for the non-energy mining and quarrying sector was higher than for the other large mining and quarrying activity, namely the mining of coal and lignite (124.6 %), and also higher than the industrial average (149.8 %, 2002). Both of the subsectors covered by this chapter recorded relatively high wage adjusted labour productivity ratios, 160.1 % for metal ore mining and 185.3 % for other mining and quarrying in 2001. At a more detailed level of analysis, the mining of chemical and fertilizer minerals (NACE Group 14.3) recorded the lowest wage adjusted labour productivity ratio within this sector and the quarrying of sand and clay (NACE Group 14.2) recorded the highest ratio in the EU-25 - see Figure 3.5. An analysis of the gross operating rate in 2001 (the ratio of the gross operating surplus to turnover) shows a very similar situation, with the non-energy mining and quarrying sector recording a level (18.1 %) below the mining and quarrying of energy products average (44.2 %), but above that for the mining of coal and lignite (13.3 %), while the mining of chemical and fertilizer minerals recorded the lowest gross operating rate (-0.8 %, 2002) across those NACE groups covered within this chapter.

Figure 3.5
Mining and quarrying, except of energy producing materials (NACE Subsection CB)
Wage adjusted labour productivity, EU-25, 2002 (%)



(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EXTERNAL TRADE

The EU-25's exports of metal ores and other mining and quarrying products (CPA Subsection CB) were valued at EUR 12.1 billion in 2004, equivalent to 1.3 % of all industrial (CPA Sections C to E) exports. These were exceeded by imports valued at EUR 23.2 billion, or 2.4 % of industrial imports. The resulting trade deficit of EUR 11.1 billion was split into EUR 10.1 billion for metal ores (CPA Division 13) and EUR 1.1 billion for other mining and quarrying products (CPA Division 14). The only CPA groups among metal ores and other mining and quarrying products for which the EU-25 did not record a deficit in 2004 were salt (CPA Group 14.4) and other mining and quarrying products not elsewhere classified (CPA Group 14.5), with trade surpluses of EUR 17.4 million and EUR 184.7 million respectively.

Comparing 2004 with 1999 there was not a major change in the composition of the EU-25's exports of metal ores and other mining and quarrying products, which were dominated by other mining and quarrying products not elsewhere classified (CPA Group 14.5): 86.8 % of the total in 1999 and 85.7 % in 2004. The composition of imports however changed during this period as the share of other mining and quarrying products not elsewhere classified fell 8.1 percentage points to 43.9 %. Balancing this, the share of the two metal ores CPA groups increased, the share of iron ores (CPA Group 13.1) rose 4.5 percentage points to a 21.5 % share, while that of non-ferrous metal ores (CPA Group 13.2) rose 5.2 percentage points to 24.0 %.

Very few Member States recorded a positive trade surplus (intra- and extra-EU combined) for metal ores and other mining and quarrying products in 2004, the largest being EUR 109.4 million in Portugal. Italy, Finland, the Netherlands and Spain each recorded a trade deficit in excess of EUR 1 billion, while in Germany the trade deficit reached as high as EUR 3.0 billion.

The Member States most specialised in the export of metal ores and other mining and quarrying products in terms of the share of all industrial exports accounted for by these goods were Belgium (3.5 %) and the United Kingdom (2.6 %). These goods accounted for the largest share of imports of industrial goods in Belgium (4.4 %) and in Finland (3.3 %).

Table 3.3
Mining of metal ores (NACE Division 13)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million) (2)	3 221	:	0	0	0	0	:	113	46	215	8	0	0	0	0	25	0
Production (EUR million) (2)	3 098	:	0	0	0	0	:	119	46	205	12	0	0	0	0	26	0
Value added at factor cost (EUR million) (3)	1 355	:	0	0	0	0	:	38	15	57	-2	0	0	0	0	13	0
Gross operating surplus (EUR million) (3)	510	:	0	0	0	0	:	12	-1	1	-13	0	0	0	0	3	0
Purchases of goods and services (EUR million)	:	:	0	0	0	0	:	83	34	148	11	0	0	0	0	14	0
Gross investment in tangible goods (EUR million)	:	:	0	0	0	0	:	8	2	34	0	0	0	0	:	3	0
Number of persons employed (thousands) (2)	34	:	0	0	0	0	:	1	1	1	0	0	0	0	0	1	0
Personnel costs (EUR million) (3)	844	:	0	0	0	0	:	27	16	55	10	0	0	0	0	10	0
App. labour productivity (EUR thous./pers. emp.) (2)	40.0	:	6.1	:	:	:	:	47.4	24.1	48.0	-7.2	:	:	:	:	15.1	:
Average personnel costs (EUR thous./employee) (2)	25.0	:	:	:	:	:	:	34.1	26.9	47.2	34.1	:	:	:	:	12.1	:
Wage adjusted labour productivity (%) (2)	160.1	:	0.0	:	:	:	:	139.3	89.4	101.8	-21.1	:	:	:	:	124.0	:
Gross operating rate (%) (2)	15.8	:	63.4	:	:	:	:	10.2	-2.7	0.5	-163.3	:	:	:	:	10.5	:
Investment per person employed (EUR thousand)	:	:	0.2	:	:	:	:	10.3	3.0	28.5	0.3	:	:	:	:	3.9	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	0	:	:	:	:	16	:	1 345	0	195	:	:	:	:	:	88	:
Production (EUR million)	0	:	:	:	:	15	:	1 341	0	186	:	:	:	:	:	89	:
Value added at factor cost (EUR million)	0	:	:	:	:	3	:	454	0	44	:	:	:	:	:	45	:
Gross operating surplus (EUR million)	0	:	:	:	:	-2	:	186	0	13	:	:	:	:	:	23	:
Purchases of goods and services (EUR million)	0	:	:	:	:	11	:	901	0	154	:	:	:	:	:	44	:
Gross investment in tangible goods (EUR million)	0	:	:	:	:	0	:	107	0	18	:	:	:	:	:	6	:
Number of persons employed (thousands)	0	:	:	:	:	1	:	6	0	7	:	:	:	:	:	0	:
Personnel costs (EUR million)	0	:	:	:	:	5	:	268	0	30	:	:	:	:	:	22	:
App. labour productivity (EUR thous./pers. emp.)	:	:	:	:	:	2.9	:	72.2	-1.1	5.8	:	:	:	:	:	114.7	:
Average personnel costs (EUR thous./employee)	:	:	:	:	:	5.3	:	42.6	7.6	4.1	:	:	:	:	:	56.3	:
Wage adjusted labour productivity (%)	:	:	:	:	:	54.9	:	169.2	-14.0	143.3	:	:	:	:	:	203.8	:
Gross operating rate (%)	:	:	:	:	:	-14.5	:	13.8	-119.0	6.8	:	:	:	:	:	26.2	:
Investment per person employed (EUR thousand)	:	:	:	:	:	0.4	:	16.9	17.2	2.4	:	:	:	:	:	14.4	:

(1) Ireland, Italy, the Netherlands and the United Kingdom, 2001. (2) EU-25, 2001. (3) EU-25 and Latvia, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 3.4
Other mining and quarrying (NACE Division 14)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	
Turnover (EUR million)	33 457	:	392	248	5 775	18	:	3 235	5 618	782	3 956	53	8	34	71	204	13	
Production (EUR million) (2)	31 895	:	396	232	5 360	18	:	3 210	5 450	728	4 031	54	8	35	71	170	12	
Value added at factor cost (EUR million) (3)	12 419	:	169	103	2 473	7	:	1 381	1 733	262	1 517	28	5	14	33	75	7	
Gross operating surplus (EUR million) (3)	5 919	:	101	54	1 112	4	:	767	607	138	840	13	3	7	21	45	4	
Purchases of goods and services (EUR million)	:	:	236	131	3 248	10	:	1 962	3 802	527	2 575	23	4	21	38	129	5	
Gross investment in tangible goods (EUR million)	:	:	51	33	472	2	:	301	483	66	347	12	1	3	:	31	1	
Number of persons employed (thousands)	228	:	8	1	35	1	:	26	30	3	30	1	0	1	0	4	0	
Personnel costs (EUR million) (3)	6 500	:	68	49	1 361	3	:	615	1 126	124	677	14	2	7	12	30	2	
App. labour productivity (EUR thous./pers. emp.) (3)	54.4	:	22.1	84.5	70.2	14.2	:	53.4	57.4	84.0	50.6	44.6	10.9	10.4	111.6	19.4	22.4	
Average personnel costs (EUR thous./employee) (3)	30.2	:	9.1	41.6	40.2	6.6	:	25.2	37.7	40.0	27.8	:	4.7	5.3	41.7	8.3	10.2	
Wage adjusted labour productivity (%) (3)	180.2	:	241.9	203.3	174.4	215.0	:	211.7	152.5	209.9	181.9	:	229.6	196.1	267.8	232.9	220.4	
Gross operating rate (%) (3)	17.7	:	25.8	21.9	19.3	21.7	:	23.7	10.8	17.7	21.2	:	25.0	35.1	19.7	29.0	33.4	
Investment per person employed (EUR thousand)	:	:	6.7	27.2	13.4	3.6	:	11.6	16.0	21.2	11.6	:	18.8	2.8	2.2	:	8.1	2.5
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH	
Turnover (EUR million)	973	:	:	854	:	61	:	462	7 751	107	:	:	:	:	:	695	1 019	
Production (EUR million)	832	:	:	862	:	58	:	426	7 478	103	:	:	:	:	:	687	1 039	
Value added at factor cost (EUR million)	274	:	:	366	:	23	:	161	2 787	32	:	:	:	:	:	291	489	
Gross operating surplus (EUR million)	148	:	:	181	:	10	:	81	1 583	13	:	:	:	:	:	139	216	
Purchases of goods and services (EUR million)	707	:	:	525	:	39	:	308	4 915	75	:	:	:	:	:	418	531	
Gross investment in tangible goods (EUR million) (4)	62	:	:	153	:	7	:	69	525	11	:	:	:	:	:	44	:	
Number of persons employed (thousands)	3	:	:	14	:	2	:	2	33	7	:	:	:	:	:	3	5	
Personnel costs (EUR million)	126	:	:	185	:	14	:	80	1 204	20	:	:	:	:	:	152	272	
App. labour productivity (EUR thous./pers. emp.)	105.3	:	:	26.8	:	9.8	:	68.5	85.1	4.8	:	:	:	:	:	95.6	103.1	
Average personnel costs (EUR thous./employee)	50.1	:	:	14.1	:	5.7	:	37.7	37.5	3.0	:	:	:	:	:	51.0	:	
Wage adjusted labour productivity (%)	210.2	:	:	190.2	:	171.9	:	181.5	227.1	162.6	:	:	:	:	:	187.6	:	
Gross operating rate (%)	15.2	:	:	21.2	:	15.9	:	17.6	20.4	12.1	:	:	:	:	:	19.9	21.2	
Investment per person employed (EUR thousand) (4)	22.1	:	:	11.3	:	2.8	:	29.2	16.0	1.6	:	:	:	:	:	14.5	:	

(1) Ireland, Italy, the United Kingdom and Switzerland, 2001. (2) EU-25, 2001. (3) Latvia, 2001. (4) The Netherlands, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Food, beverages and tobacco



The importance of food and beverages in household consumption has fallen gradually for a number of decades. This pattern continued during the period 1995 to 2003, as the proportion of final consumption expenditure accounted for by food and beverages fell from 16.4 % to 14.8 % in the EU-25. Upwards of 25 % of household expenditure in the Baltic States could be attributed to food and beverages, synonymous of the relatively high importance of food and beverages in consumption expenditure in the countries that joined the EU in 2004: in contrast less than 11 % of final consumption expenditure in Ireland and the United Kingdom was allotted to food and beverages in 2003 ⁽¹⁾.

⁽¹⁾ Greece, Spain, Latvia, Austria and Portugal, 2002; Cyprus and Lithuania, 2001; Malta and Poland, not available.

The food and beverages manufacturing sector has a heterogeneous structure, insofar as there are very large, multinational producers that compete on global markets, while many of the subsectors are characterised by a relatively high proportion of small enterprises, often serving local, domestic markets with regional produce. Table 4.1 presents information on the largest agro-food enterprises in Europe, several of which are specialised in the manufacture of alcoholic beverages; the tobacco industry is also dominated by large multinational enterprise groups.

In some activities, innovation is a key instrument for food and beverage manufacturers to remain competitive and respond to consumer needs, such as sophistication, convenience, health and well-being. Innovative processes are particularly well developed in the areas of dairy products, ready made meals, frozen foods and beverages.

This chapter refers to the processing of food, beverage and tobacco products and excludes the agricultural activities of growing, farming, rearing and hunting (which are covered in NACE Division 01). This distinction may be important for the production of a number of products where finished goods are commonly sold directly by agricultural establishments, for example, olive oil, eggs, cheese and certain fruits and vegetables. NACE Division 15 covers food and beverages, while Division 16 covers the manufacture of tobacco products.

NACE

- 15: manufacture of food products and beverages;
- 15.1: production, processing and preserving of meat and meat products;
- 15.2: processing and preserving of fish and fish products;
- 15.3: processing and preserving of fruit and vegetables;
- 15.4: manufacture of vegetable and animal oils and fats;
- 15.5: manufacture of dairy products;
- 15.6: manufacture of grain mill products, starches and starch products;
- 15.7: manufacture of prepared animal feeds;
- 15.8: manufacture of other food products;
- 15.9: manufacture of beverages;
- 16: manufacture of tobacco products.

Table 4.1
Largest agro-food enterprises in Europe ranked by world sales in food products, 2003-2004

	Country	Main products	Food sales (EUR billion)
Nestlé	CH	Multi-product	54.5
Unilever	NL/UK	Multi-product	26.2
Diageo	UK	Alcoholic beverages	13.7
Danone	FR	Multi-product	13.1
Cadbury Schweppes	UK	Beverages, confectionery	9.4
Heineken	NL	Beer	9.3
Parmalat (1)	IT	Dairy, snacks, beverages	7.6
Scottish & Newcastle	UK	Alcoholic beverages	7.3
Associated British Foods	UK	Sugar, starches, prepared foods	7.1
InBev	BE	Beer	7.0

(1) Total sales.

Source: CIAA, <http://www.ciaa.be>

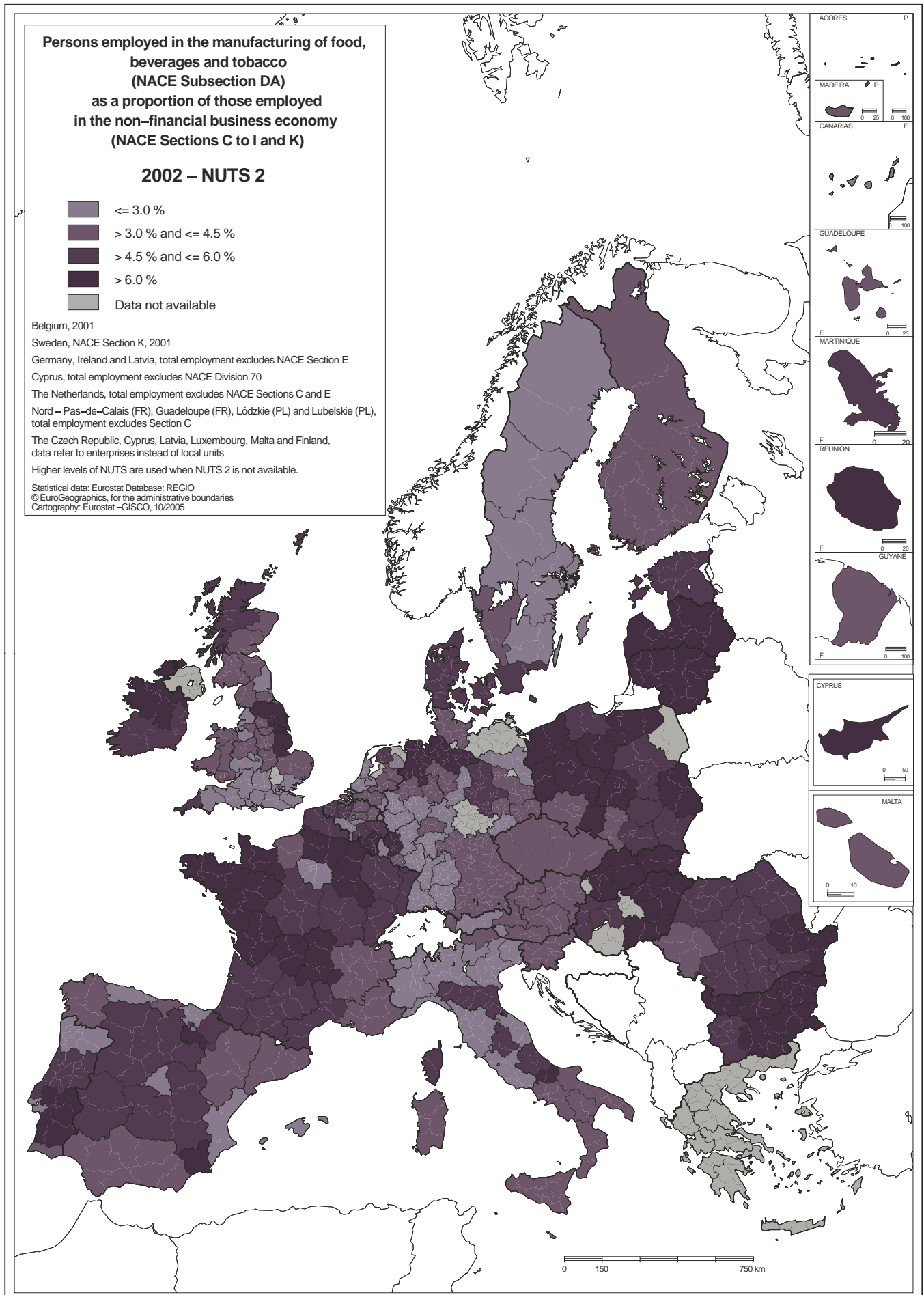


Table 4.2
Manufacture of food products, beverages and tobacco (NACE Subsection DA)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Food products, beverages and tobacco (1)	185 361	10.5	4 454	12.3
Food products and beverages	177 778	10.1	4 422	12.3
Meat	29 534	1.7	973	2.7
Fish	:	:	:	:
Dairy products (1)	17 505	1.0	396	1.1
Bread, sugar, confectionery and other food products	65 332	3.7	1 908	5.3
Miscellaneous food products	28 771	1.6	574	1.6
Beverages	33 411	1.9	447	1.2
Tobacco products (1)	27 073	1.5	203	0.6

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

One of the most important trends in this sector has been the increasing degree of awareness with respect to food supply, food quality and the role that food plays in relation to health issues. At the same time, the rapid pace of modern life, coupled with less attention to regular family meal times has seen an expansion of convenience and fast-food markets. Consumer concerns have been reflected in the Commission's proposal for a Regulation on nutrition and health claims on foods (adopted on 16 July 2003), which was designed to limit manufacturers' nutritional and general health claims. Since 18 April 2004, Regulation No 1829/2003 provides a single Community procedure for the authorisation of genetically-modified (GM) food and feed.

European Commission policies are not restricted to consumer protection, as the competitiveness of food and beverage producers is expected to be impacted by recent reforms to the Common Agricultural Policy (CAP) and WTO negotiations, which should lead to price reductions for domestic agricultural raw materials. Furthermore, the Directorate-General for Health and Consumer Protection has developed an integrated approach to food safety through so-called 'farm-to-table measures'. This is based upon monitoring food quality throughout the production, processing and distribution chain. Regulation (EC) No 178/2002 lays down the approach which obliges manufacturers to trace the origin of all the products they use.

Table 4.3
Manufacture of food products and beverages (NACE Division 15)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (18.4)	Cyprus (245.9)	Germany (18.6)	Cyprus (240.7)
2	United Kingdom (17.3)	Denmark (143.2)	France (14.7)	Denmark (144.7)
3	France (16.2)	Spain (123.8)	United Kingdom (11.0)	Netherlands (130.0)

(1) Belgium, Ireland, Cyprus and Austria, 2001; the Czech Republic, Greece, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Poland, Slovenia and Sweden, not available.

(2) Belgium, Cyprus and Austria, 2001; the Czech Republic, Greece, Ireland, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Poland, Slovenia and Sweden, not available.

(3) Ireland, Cyprus and Austria, 2001; the Czech Republic, Greece, Lithuania, Luxembourg, Hungary, Malta, Poland, Slovenia and Sweden, not available.

(4) Cyprus and Austria, 2001; the Czech Republic, Greece, Ireland, Latvia, Lithuania, Luxembourg, Hungary, Malta, Poland, Slovenia and Sweden, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The food, beverage and tobacco industry (NACE Subsection DA) is among the largest industrial sectors (NACE Sections C to E) within the EU-25, accounting for EUR 185 billion of added value and employing some 4.5 million persons in 2001. These figures equate to a 10.5 % share of industrial value added (NACE Sections C to E) and a 12.3 % share of the total number of persons employed in the EU-25's industrial economy. The food and beverages sector (NACE Division 15) accounts for over 95 % of the value added generated by the food, beverages and tobacco sector, while the tobacco products sector (NACE Division 16) accounts for the remainder.

The manufacture of bread, sugar, confectionery and other food products (NACE Group 15.8) was the largest activity within the food and beverages sector (NACE Division 15) in 2002⁽²⁾, generating more than one third (36.7 %) of its added value and accounting for an even higher share of

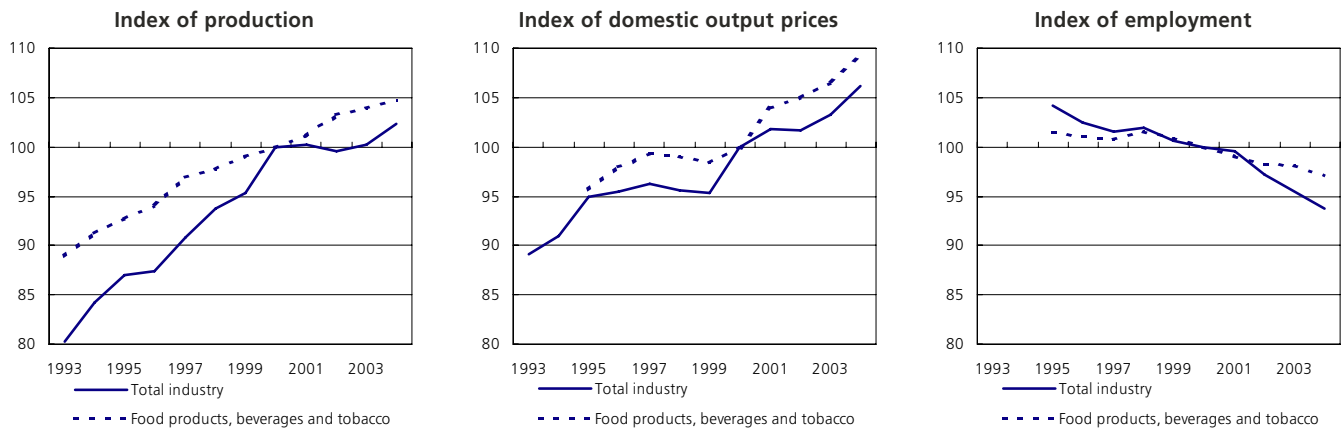
employment (43.2 %). The second largest subsector, in terms of value added, was beverages (NACE Group 15.9) with some 18.8 % of the value added for food and beverages, followed by meat processing (NACE Group 15.1) with 16.6 %. In terms of persons employed, second and third positions were reversed, as the beverages subsector employed 10.1 % of the food and beverages workforce, compared with 22.0 % for meat processing. All of the remaining subsectors accounted for less than 10 % of food and beverages value added or employment.

Some 7.8 % of German industrial value added was generated by food, beverage and tobacco manufacturers in 2002; this was at the lower end of the range across the Member States, just above Finland (6.6 %), Slovakia (7.0 %, 2000) and Sweden (7.5 %). The relative importance of food, beverage and tobacco manufacturing was considerably higher in Cyprus (26.2 % of industrial value added), Latvia (22.1 %, 2001), Lithuania (18.6 %), the Netherlands (15.8 %) and Denmark (15.3 %)⁽³⁾.

⁽²⁾ No information available for fish processing (NACE Group 15.2) or dairy products (NACE Group 15.5) in 2002; data for 2001 suggests that dairy products was the fourth largest subsector within the food and beverages sector, with a 9.9 % share of value added and a 9.0 % share of employment.

⁽³⁾ Belgium and Latvia, 2001; Greece, Ireland and Poland, not available.

Figure 4.1
Manufacture of food products, beverages and tobacco (NACE Subsection DA)
Evolution of main indicators, EU-25 (2000=100)

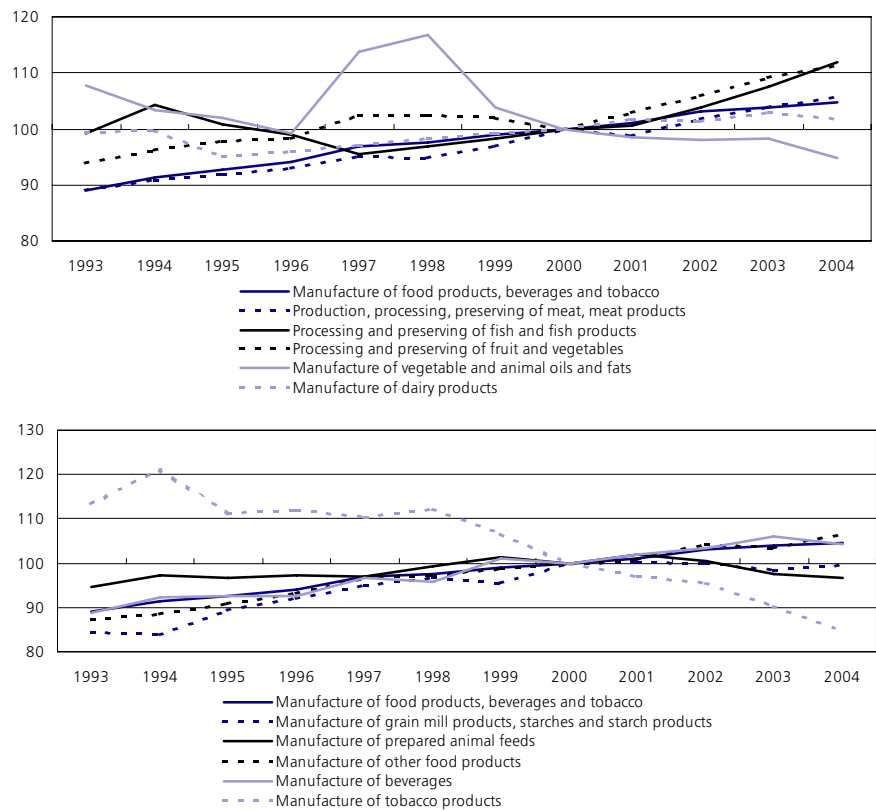


Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The EU-25's index of production for food, beverages and tobacco rose on average by 1.5 % per annum during the period 1993 to 2004, compared with an industrial average of 2.2 %. The relatively constant demand for food and beverages as necessity items (even during times of recession or economic slowdown) was evident, as year on year output growth only exceeded the industrial average in 1996 and between 2001 and 2003, years when the EU-25 industrial production index never rose by more than 0.6 %.

Within the food, beverages and tobacco branch, the bread, sugar, confectionery and other food products activity reported the fastest expansion in production in the EU-25 during the period 1993 to 2004, when output rose by an average of 1.8 % per annum. Health awareness may well explain the reductions in output registered for vegetable and animal oils and fats (NACE Group 15.4) and for tobacco products (NACE Division 16), where production fell by an average of 1.2 % and 2.6 % per annum respectively between 1993 and 2004.

Figure 4.2
Manufacture of food products, beverages and tobacco (NACE Subsection DA)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

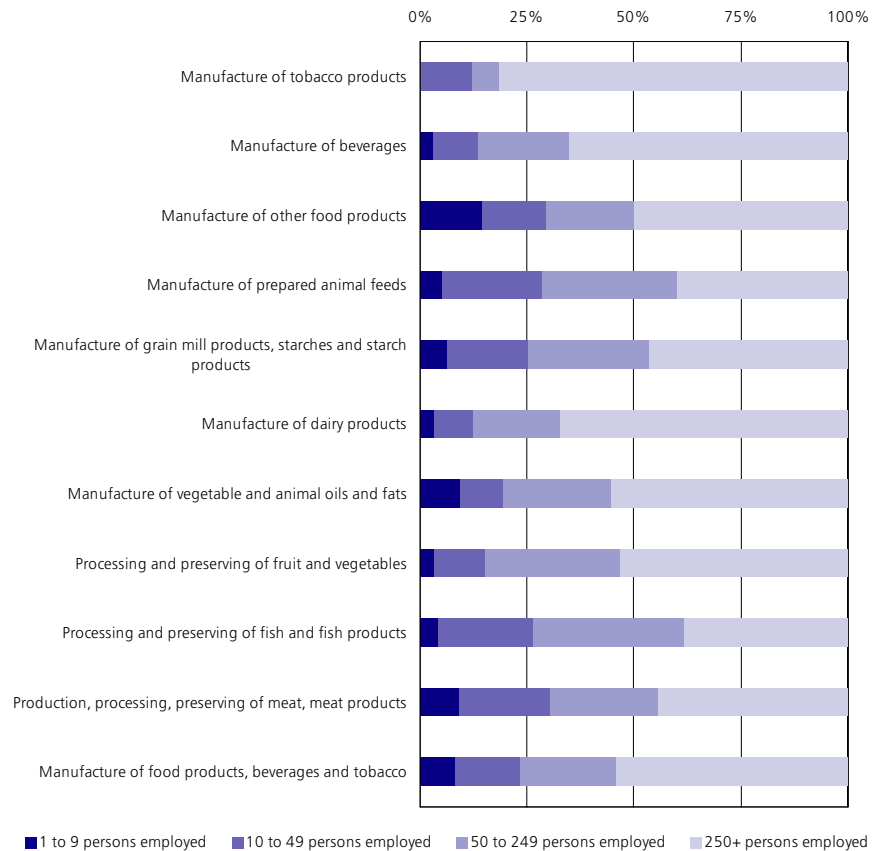
Small and medium-sized enterprises (SMEs), with between 1 and 249 persons employed accounted for 45.8 % of the value added generated in the EU-25's food, beverage and tobacco sector in 2001, almost the same as the proportion for total industry (45.3 %). Large enterprises (with 250 or more persons employed) accounted for 81.5 % of value added in the tobacco products subsector, 67.3 % of value added in the dairy products subsector and 64.9 % in the beverages subsector. On the other hand, SMEs predominated within the activities of fish processing and prepared animal feeds, where enterprises with less than 250 persons employed generated 61.6 % and 60.1 % of value added respectively. Micro enterprises (with 1 to 9 persons employed) were particularly important in the French and German food, beverage and tobacco processing sectors, while large enterprises predominated in the Netherlands and the United Kingdom.

EMPLOYMENT CHARACTERISTICS

The food, beverage and tobacco sector employed a relatively high proportion of women (39.2 %) compared with the EU-25 industrial average of 29.0 % in 2004. This was particularly true in the Czech Republic and the Baltic States, where more than 50 % of the workforce were women. The proportion of the food, beverage and tobacco sector's workforce that were women was at least 15 points higher than the national industrial average in Germany, Estonia, Luxembourg, Austria and Finland in 2004. Hungary and Malta were the only Member States where the proportion was lower than the national industrial average.

The food, beverage and tobacco sector was also characterised by a relatively high proportion of part-time employment. Some 11.1 % of those employed in this sector in the EU-25 in 2004 worked on a part-time basis, compared with an industrial average of 7.3 %. The highest propensity for part-time employment was in the Netherlands (32.1 %). In Denmark and Germany, the proportion of persons working on a part-time basis in the food, beverage and tobacco sector was 9.0 and 10.6 percentage points higher than the national industrial average.

Figure 4.3 **Manufacture of food products, beverages and tobacco (NACE Subsection DA)**
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 4.4
Manufacture of food products, beverages and tobacco (NACE Subsection DA)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	60.8	85.7	88.9	95.9	12.7	67.4	19.9
BE	70.8	92.8	83.7	93.6	12.8	73.5	13.7
CZ	49.4	77.9	95.9	98.5	11.5	65.8	22.7
DK	63.8	90.7	82.1	90.1	18.9	55.8	25.3
DE	51.0	70.5	78.6	88.1	13.9	62.0	24.1
EE	37.8	68.9	94.0	96.2	:	62.2	28.6
EL	64.6	88.2	97.8	99.5	8.1	73.0	18.9
ES	67.6	89.5	96.4	99.2	10.8	70.6	18.6
FR	63.6	89.0	90.8	96.4	15.2	65.2	19.6
IE	68.2	98.3	92.8	99.2	12.5	68.2	19.3
IT	65.7	92.3	92.0	98.0	8.6	71.1	20.3
CY	56.3	85.5	93.8	99.0	6.8	72.7	20.5
LV	46.5	79.2	94.5	99.2	10.8	71.2	18.0
LT	44.5	81.1	96.7	100.2	14.1	76.2	16.3
LU	53.3	65.2	86.9	93.1	18.0	71.1	:
HU	62.7	102.6	97.1	100.3	9.6	71.2	19.2
MT	82.0	104.7	90.7	93.7	:	58.5	:
NL	68.3	87.6	67.9	91.8	17.9	62.8	19.3
AT	57.8	78.6	82.5	92.5	10.5	68.1	21.4
PL	61.1	90.3	93.3	97.7	14.1	74.4	11.5
PT	50.8	86.1	95.0	97.4	10.7	66.0	23.3
SI	54.5	85.9	96.8	101.0	11.1	73.3	15.5
SK	53.8	86.8	98.7	100.1	11.1	72.4	16.4
FI	52.3	72.6	91.3	97.2	12.9	64.9	22.2
SE	61.5	82.3	84.1	92.1	16.8	60.9	22.4
UK	67.1	89.8	88.0	96.9	11.3	65.2	23.5

(1) Lithuania, 2002; Luxembourg, 2001.

(2) Estonia, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

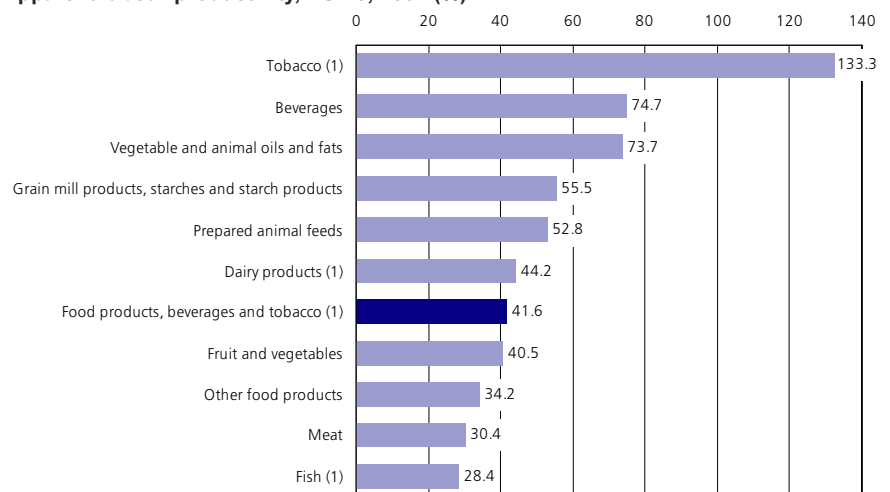
Apparent labour productivity of the EU-25's food, beverage and tobacco sector was EUR 41 600 per person employed in 2001. There was a large difference in productivity levels between the food and beverages subsector (EUR 40 200) and the tobacco products subsector (EUR 133 300) in 2001.

Average personnel costs in the EU-25's food, beverage and tobacco sector equated to EUR 24 200 per employee in 2001, which was more than 20 % below the manufacturing (NACE Section D) average. The highest average personnel costs per employee were recorded for the tobacco, beverages, and vegetable and animal oil and fats sectors.

Relatively low average personnel costs are one reason why the wage adjusted labour productivity ratio for food, beverages and tobacco was well above the manufacturing average in 2001, at 171.8 % compared with 146.1 %. Wage adjusted labour productivity was

higher than the manufacturing average for each of the NACE groups that make-up the food, beverages and tobacco sector, with the highest ratios recorded for tobacco products (306.7 %) and beverages (211.5 %).

Figure 4.4
Manufacture of food products, beverages and tobacco (NACE Subsection DA)
Apparent labour productivity, EU-25, 2002 (%)



(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 4.5
Food products, beverages and tobacco (CPA Subsection DA)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Food products, beverages and tobacco	46 576	5.2	6.1	40 221	4.2	4.8	6 354	115.8
Meat and meat products	5 250	0.6	0.8	4 709	0.5	0.6	542	111.5
Processed and preserved fish and fish products	1 835	0.2	0.2	10 167	1.1	1.3	-8 332	18.0
Processed and preserved fruit and vegetables	2 646	0.3	0.3	4 849	0.5	0.7	-2 204	54.6
Animal and vegetable oils and fats	2 337	0.3	0.4	8 283	0.9	0.8	-5 946	28.2
Dairy products and ice cream	5 316	0.6	0.7	876	0.1	0.1	4 440	606.6
Grain mill products, starches and starch products	1 833	0.2	0.3	827	0.1	0.1	1 006	221.7
Prepared animal feeds	759	0.1	0.1	725	0.1	0.1	35	104.8
Other food products	11 291	1.3	1.4	5 565	0.6	0.7	5 726	202.9
Beverages	13 627	1.5	1.7	3 907	0.4	0.4	9 720	348.8
Tobacco products	1 522	0.2	0.3	255	0.0	0.0	1 267	597.3

Source: Eurostat, Comext

The EU-25's gross operating rate for the food, beverages and tobacco sector was 9.8 % in 2001, compared with an industrial average of 10.7 %. There were particularly high (more than 13 %) rates of profitability, according to this measure, for the bread, sugar, confectionery and other food products sector, as well as for the beverages sector.

EXTERNAL TRADE

The EU-25 exported EUR 46.6 billion of food products, beverages and tobacco (CPA Subsection DA) in 2004, equivalent to a 5.2 % share of total industrial exports. There was a positive trade balance for food products, beverages and tobacco, as imports were valued at EUR 40.2 billion (or 4.2 % of all industrial imports).

A large part of the EU-25's trade surplus could be attributed to the export performance of beverages (CPA Group 15.9) and other food products (CPA Group 15.8), which accounted for just under one third and one quarter respectively of the EU-25's exports of food, beverages and tobacco in 2004.

Processed fish products (CPA Group 15.2) accounted for just over 25 % of the EU-25's imports in 2004, while a fifth of the EU-25's imports were made-up of animal and vegetable oils and fats (CPA Group 15.4).

4.1: MEAT

This subchapter covers all meat processing stages that follow on from animal rearing; in other words, the activities of slaughtering through to the preparation of meat for final consumption, as covered by NACE Group 15.1. This sector includes the production, processing and preserving of fresh, chilled, frozen, dried, salted and smoked meats, as well as the treatment of hides and skins, the rendering of fats and the processing of animal offal.

In a report on the 'Prospects for agricultural markets and income, 2004-2011', the Directorate-General for Agriculture stated that beef, pig and poultry markets in the EU-25 had recovered well from animal health incidents of recent years, such as dioxin contaminated poultry, foot and mouth disease, BSE, and avian flu. The report stated that overall meat consumption in the EU-25 was 87.4 kg per capita in 2004, of which pig meat accounted for approximately 50 %, followed by poultry (26 %).

In response to health and safety concerns the European Commission launched a number of initiatives to protect animal health and welfare during transport and at the time of slaughter, while guaranteeing the traceability of animals down the food chain. The European Food Safety Authority (EFSA) is the cornerstone of the EU's risk assessment regarding food and feed safety.

STRUCTURAL PROFILE

The production, processing and preserving of meat and meat products (NACE Group 15.1), hereafter referred to as meat processing, accounted for 16.6 % of the EU-25's value added within the food and beverages sector (NACE Division 15) in 2002; this was considerably lower than its corresponding share of employment (22.2 %).

Table 4.6
Leading meat slaughtering enterprises, EU-25, 2004 (market share in terms of volume of meat slaughtered, %)

Country		
Pig slaughterers		
Danish Crown	DK	10.0
Vion Foods	NL/DE	8.0
Westfleisch	DE	2.4
Tönnies	DE	2.3
Cooperl	FR	1.6
Beef slaughterers		
Vion Foods	NL/DE	4.5
Irish Foods	IE/UK	3.5
Socopa	FR	3.0
Cremonini	IT	3.0
Südfleisch	DE	3.0
Poultry slaughterers		
Doux	FR	5.0
LDC	FR	4.0
Grampian	UK	4.0
AIA	IT	3.5
Nutreco	NL	3.0

Source: Meat Processing Global, <http://www.meatnews.com>

Table 4.7
Production, processing, preserving of meat, meat products (NACE Group 15.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (20.1)	Denmark (241.2)	Germany (20.1)	Denmark (185.5)
2	France (19.5)	Hungary (161.1)	France (17.6)	Poland (150.8)
3	United Kingdom (15.9)	Cyprus (150.0)	Poland (11.9)	France (147.5)

(1) Belgium and Latvia, 2001; Greece, not available.

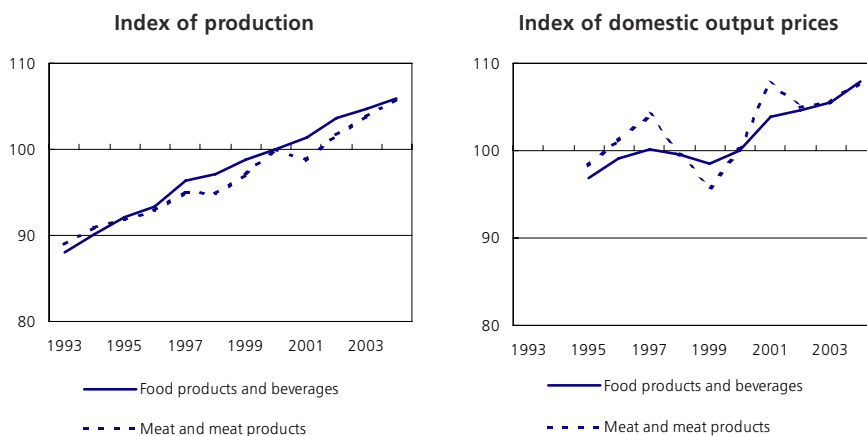
(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 4.5
Production, processing, preserving of meat, meat products (NACE Group 15.1)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Meat processing is quite fragmented, with a relatively high proportion of small enterprises (with 10 to 49 persons employed) that together accounted for 21.2 % of EU-25 value added in 2001, compared with an average of 15.1 % for food and beverages. There were however signs of a consolidation process in 2004 and 2005, with mergers motivated by wishes to enter new geographical markets, or alternatively vertical integration so as to cover a range of activities from the farm to the table (for example, feed mills, animal rearing, slaughterhouses, processing and production facilities, distribution chains). Examples within the pig processing subsector included the purchase of Sokolów (PL) by Danish Crown (DK) and HK Ruokatalo (FI), or Smithfield Foods (US) acquisition of Animex and Morliny (both PL), while Vion Group (DE/NL) was formed out of Dumeco and Hendrix Meat Group (NL) and Moxsel and Nordfleisch (DE) to become the leading beef slaughterer and second largest pork slaughterer in the EU (see Table 4.6 on the previous page).

Three Member States dominated the EU-25's meat processing sector, as Germany, France and the United Kingdom together accounted for 55.5 % of value added and 49.2 % of the workforce in 2002. None of the remaining Member States accounted for more than 10 % of the EU-25's value added, with Italy the next highest contributor at 9.0 %⁽⁴⁾. There was a relatively high number of persons employed in the Polish meat processing sector, some 116 000 or 11.9 % of the EU-25 total in 2002.

In relative terms, the meat processing sector was important in Denmark, Hungary, Cyprus and France, where its contribution to industrial value added was at least 40 % higher than the EU-25 average in 2002⁽⁵⁾. The importance of meat processing was confirmed by relatively high employment specialisation ratios in Denmark, Hungary and France in 2002, as well as in Poland⁽⁶⁾.

⁽⁴⁾ Belgium and Latvia, 2001; Greece, not available.

⁽⁵⁾ Belgium and Latvia, 2001; Ireland and Greece, not available.

⁽⁶⁾ Latvia, 2001; Ireland and Greece, not available.

The evolution of the meat processing branch (NACE Group 15.1) followed closely that of the whole food and beverages sector during the 1990's, as EU-25 output grew at a modest pace from year to year, aside from stagnation in 1998. However, there was some divergence from this pattern in 2001, as the production index for meat processing fell by 1.2 % (in contrast to a 1.4 % expansion for food and beverages), which can largely be attributed to health and safety concerns. More detailed information confirms that red meats were substituted by poultry in 2001, as the output of the latter rose by as much as 5.6 %.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's meat processing sector was EUR 30 400 in 2002, almost EUR 10 000 lower than the average for the whole of food and beverages. EU-25 average personnel costs were also relatively low in 2002 (EUR 22 400), although the difference when compared with the food and beverages average (EUR 25 300) was not as pronounced. The wage adjusted labour productivity ratio of the EU-25's meat processing sector was 135.7 % in 2002, the lowest among all NACE groups within the food and beverages sector⁽⁷⁾.

Denmark recorded the highest apparent labour productivity in the meat processing sector at EUR 53 600 of added value per person employed in 2002. However, Italy (EUR 45 700) was the only Member State to report that its apparent labour productivity within the meat processing sector was higher than its industrial average. Apparent labour productivity in Slovakia, Luxembourg, Germany and Poland was particularly low in relation to national industrial averages.

The profitability of the meat processing sector was also relatively low in comparison with most other food and beverage activities, as the gross operating rate for the EU-25 stood at 5.7 % in 2002. This was the second lowest gross operating rate among food and beverage activities, with only prepared animal feed (NACE Group 15.7) lower, and was almost 4 percentage points below the food and beverages average (9.4 %).

⁽⁷⁾ Fish processing (NACE Group 15.2) and dairy products (NACE Group 15.5), 2001.

EXTERNAL TRADE

Extra EU-25 exports of meat and meat products (CPA Group 15.1) accounted for 11.7 % of all food and beverage exports in 2004. Exports to non-Community countries were valued at EUR 5.2 billion, which was EUR 542 million higher than imports. Looking in more detail, the EU-25 ran trade surpluses of over EUR 300 million for both fresh and preserved meat and for poultry (CPA Classes 15.11 and 15.12), while there was a deficit of some EUR 93 million for meat and poultry meat products (CPA Class 15.13).

Denmark, Ireland, Hungary and the Netherlands were particularly specialised in exporting meat and meat products. Denmark, the Netherlands and Ireland also recorded the three highest trade surpluses among the Member States for these products. Italy and the United Kingdom posted the largest trade deficits for meat and meat products (EUR -4.2 billion and EUR -2.7 billion).

Table 4.8

Production, processing, preserving of meat, meat products (NACE Group 15.1)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Denmark (53.6)	Denmark (37.9)	Latvia (286.2)	Latvia (15.6)
2	Belgium (49.8)	Finland (34.5)	Malta (179.9)	Malta (8.2)
3	Netherlands (48.2)	Belgium (33.9)	Estonia (169.5)	Austria (8.0)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 4.9

Meat and meat products (CPA Group 15.1)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Meat and meat products	5 250	0.6	0.8	4 709	0.5	0.6	542	111.5
Fresh and preserved meat, except poultry	3 612	0.4	0.5	3 278	0.3	0.4	334	110.2
Fresh and preserved poultry meat	928	0.1	0.1	627	0.1	0.1	301	148.1
Meat and poultry meat products	711	0.1	0.1	804	0.1	0.1	-93	88.4

Source: Eurostat, Comext

4.2: FISH

This subchapter covers the handling, preparation and processing of fish and seafood, whether it originates from the sea, rivers, or aquaculture. It includes the activities of cutting, filleting, salting, drying, smoking, cooking, freezing or canning, which are all included within NACE Group 15.2. The manufacture of fish soups and oils and fats derived from aquatic species are not included, nor are vessels engaged in both fishing and processing fish.

A reformed common fisheries policy (CFP) entered into force on 1 January 2003, aiming to ensure the sustainability of fishing activities within EU waters. The CFP comprises four main areas: a conservation policy regulating the amount of fish to be taken from the sea; a structural policy to help enterprises adapt to the constraints imposed by scarce resources; a common organisation of the fish market; and a common external policy towards regional and international fishery organisations.

Given the scarcity of supply, the EU imports a great deal of the fish that is consumed within the Member States. Fish processing enterprises are particularly vulnerable to uncertainty with respect to security of supply and price fluctuations.

According to the Directorate-General for Fisheries and Maritime Affairs, seafood consumption in the EU-25 grew to approximately 24 kg per capita in 2004. The highest consumption per head was reported in Portugal and Spain (three and two times higher than the EU-25 average respectively).

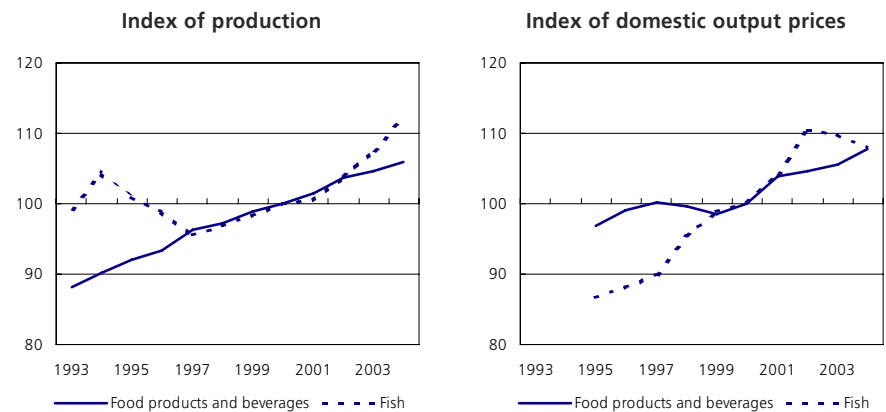
STRUCTURAL PROFILE

The output of the fish processing sector (NACE Group 15.2) was approximately EUR 3.8 billion in the EU-25 in 2001 and there were approximately 134 000 persons employed in this activity. As such, this is one of the smallest activities within food and beverages, accounting for slightly less than 3 % of value added. Fish processing is quite fragmented, as a relatively high proportion (61.6 %) of EU-25 value added was created by SMEs (with 1 to 249 persons employed) in 2001, compared with an average of 47.2 % for food and beverages.

The highest value added among the Member States was reported in Spain and the United Kingdom, both above EUR 600 million in 2002 ⁽⁸⁾ while in relative terms, the fish processing sector was particularly important in Denmark.

⁽⁸⁾ Belgium, Latvia and Poland, 2001; the Czech Republic, Greece, Cyprus, Hungary, Malta and Slovenia, not available.

Figure 4.6
Processing and preserving of fish and fish products (NACE Group 15.2)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 4.10
Processing and preserving of fish and fish products (NACE Group 15.2)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Belgium (50.2)	Belgium (32.3)	Poland (361.2)	Poland (27.2)
2	Denmark (47.4)	Germany (31.5)	Latvia (228.2)	Latvia (20.3)
3	Austria (45.5)	Denmark (31.0)	Ireland (170.1)	Austria (12.5)

(1) Belgium, Latvia and Poland, 2001; the Czech Republic, Greece, Cyprus, Luxembourg, Hungary, Malta and Slovenia not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The EU-25's fish processing branch reported a peak in output in 1994 followed by three consecutive years of falling production. However, output grew thereafter for seven consecutive years through to 2004 at an average rate of 2.3 % per annum. The increase in the production of processed fish products was concentrated in the market for prepared meals, while the market for fresh fish was stable and that for frozen fish contracted.

PRODUCTIVITY AND PROFITABILITY

The EU-25's fish processing sector had the lowest apparent labour productivity among food and beverage activities, as each person employed generated an average of EUR 28 400 in 2001. This situation was confirmed by data available for several of the Member States in 2002, when the apparent labour productivity of fish processing was consistently below that recorded for total industry. Fish processing also recorded relatively low profitability, as the EU-25's gross operating rate was 7.7 % in 2001.

EXTERNAL TRADE

Large amounts of unprocessed and processed seafood are purchased to satisfy the demand of European consumers for fish products. Indeed, processed and preserved fish and fish products (CPA Group 15.2) accounted for just over one quarter (25.4 %) of the food and beverages imported into the EU-25 in 2004. The EU-25's trade deficit for processed and preserved fish and fish products was valued at EUR 8.3 billion in 2004; the largest among the nine CPA groups that make-up food products and beverages. Spain was the leading importer of processed and preserved fish and fish products in 2004 (EUR 3.1 billion).

4.3: DAIRY PRODUCTS

This subchapter includes information on the production of fresh milk, cream, butter, yoghurt, cheese, whey, ice creams and sorbets which are all classified within NACE Group 15.5. As with the rest of this chapter, the data presented does not cover activities within the confines of farms themselves, as these are considered as part of agriculture.

The market for dairy products is often characterised as being mature and saturated. In response, manufacturers use product differentiation as their main tool to distinguish their goods. There is a relatively high degree of innovation in the dairy products sector, which has resulted in the development of a range of products to meet health and lifestyle demands, such as reduced or zero-fat, anti-cholesterol, energy-enhancing, or easily spread products.

STRUCTURAL PROFILE

The dairy products sector (NACE Group 15.5) accounted for 9.9 % of the EU-25's value added within the food and beverages sector in 2001, and a 9.0 % share of those employed. The enterprise structure of the EU's dairy products sector is generally considerably more fragmented than in the United States, Australia or New Zealand (the other leading global producers of dairy products). Nevertheless, large enterprises (with 250 or more persons employed) accounted for a relatively important share of the dairy products sector, equalling 67.3 % of EU-25 value added in 2001, compared with a food and beverages average of 52.8 %. Co-operatives are a particularly popular form of ownership within the dairy products sector (see Table 4.11).

Of the EUR 17.5 billion of added value generated in 2001, some 17.7 % was accounted for by France, the leading producer of dairy products in the EU-25. Italy (16.3 %), Germany (14.7 %) and the United Kingdom (11.3 %) were the other Member States to account for upwards of 10 % of added value⁽⁹⁾. In relative terms, the dairy products sector was particularly important within the Baltic States and Cyprus, where it contributed more than twice the EU-25 average to national industrial value added⁽¹⁰⁾.

⁽⁹⁾ Denmark, Greece and Luxembourg, not available.

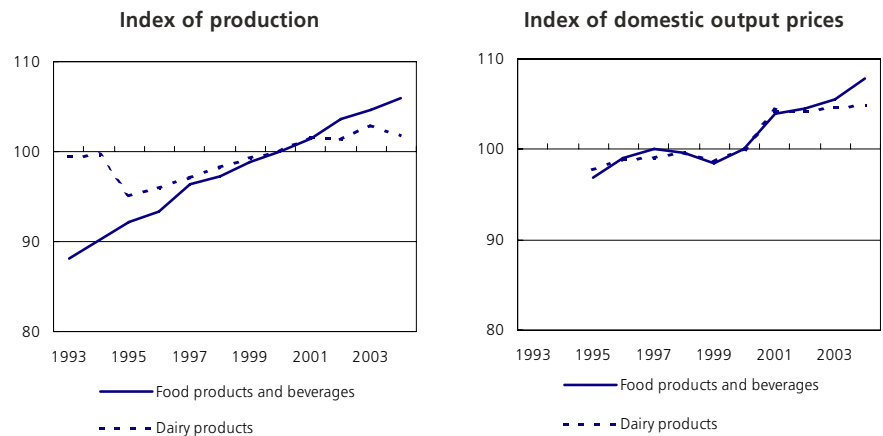
⁽¹⁰⁾ Denmark, Greece, Ireland, Luxembourg and Malta, not available.

Table 4.11 Ranking of European dairy enterprises by milk intake, 2005

	Country	Intake (million kg)	Ownership
Arla	DK/SE/UK	7 200	Co-operative
Groupe Lactails	FR/BE	5 500	Private
Friesland Coberco	NL/DE	5 200	Co-operative
Campina	NL/DE/BE/PL	5 200	Co-operative
Nordmilch	DE/UK	4 200	Co-operative
Bongrain/CLE	FR/BE/DE	3 300	Private
Nestlé	CH	2 350	Private
Sodiaal	FR	2 300	Private
Dairy Crest	UK	2 100	Private
Humana Milchunion	DE	2 000	Co-operative

Source: Industry sources

Figure 4.7 Manufacture of dairy products (NACE Group 15.5) Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

In terms of employment the situation was somewhat different, as Poland accounted for a relatively high share (12.9 %) of the total number of persons employed in the EU-25's dairy products sector in 2001. France had the largest workforce, with some 64 900 persons employed, while Italy reported the second highest number of persons employed (52 700); Poland was third in the ranking (51 200), well ahead of Germany and the United Kingdom⁽¹¹⁾.

⁽¹¹⁾ Denmark, Greece and Luxembourg, not available.

The production index for dairy products fell by 4.6 % in 1995, but then generally grew, albeit at a somewhat slower pace than that for the whole of food and beverages, rising on average by 0.8 % per annum between 1995 and 2004 (compared with 1.8 % growth for the branch of food and beverages).

Milk production in the EU is governed by production quotas designed to match supply with demand, and this may affect dairy products manufacturers in the form of higher prices compared with free market conditions. There was almost no change in the level of domestic output prices for dairy products during the last three years for which data are available, as EU-25 prices increased by 0.1 % in 2002, by 0.3 % in 2003 and by 0.2 % in 2004. While this pattern was repeated in most of the Member States for which data are available, there were significantly higher price increases recorded in Greece and Spain.

PRODUCTIVITY AND PROFITABILITY

The EU-25's dairy products sector had apparent labour productivity and average personnel costs that were slightly above the food and beverages average, as each person employed generated an average of EUR 44 200 of value added in 2001, while personnel costs averaged EUR 26 700 per employee. Combining these two ratios, the resultant wage adjusted labour productivity ratio for dairy products in the EU-25 was 165.7 %, compared with an average of 168.2 % for the whole of food and beverages. However, in a number of Member States (Germany, Italy, Spain and Portugal), apparent labour productivity in the dairy products sector exceeded national industrial averages by upwards of 15 %.

The profitability of the dairy products sector was relatively low, in the sense that the EU-25's gross operating rate was 6.2 % in 2001, while the average for the whole of food and beverages was 10.0 %. In each Member State for which data are available in 2002, the gross operating rate was lower for dairy products than for total industry.

Table 4.12

Manufacture of dairy products (NACE Group 15.5)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Netherlands (72.1)	Netherlands (47.8)	Latvia (276.5)	Latvia (19.8)
2	Germany (66.9)	Germany (41.3)	Portugal (225.1)	Malta (10.9)
3	United Kingdom (66.8)	Belgium (39.6)	Spain (194.8)	Portugal (10.1)

(1) Belgium and Latvia, 2001; Denmark, Greece and Luxembourg, not available.

(2) Belgium and Latvia, 2001; Denmark, Greece, Cyprus and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EXTERNAL TRADE

The EU-25 exported EUR 5.3 billion of dairy products and ice cream (CPA Group 15.5) in 2004, while imports were valued at just EUR 876 million. As a result, the EU-25 ran a significant trade surplus for dairy products and ice cream that was valued at EUR 4.4 billion in 2004; the third highest surplus among food products and beverages, behind bread, sugar, confectionery and other food products, and beverages (CPA Groups 15.8 and 15.9). Dairy products and ice cream accounted for 11.8 % of the EU-25's exports of food products and beverages in 2004 and just 2.2 % of its imports.

The EU-25's trade surplus for dairy products and ice cream was stable at between EUR 4.0 billion and EUR 4.5 billion during the period 2000 to 2004. France, the Netherlands, Germany and Denmark all reported trade surpluses in excess of EUR 1.0 billion for dairy products and ice cream, while Italy and the United Kingdom were the only Member States to record deficits in excess of EUR 1.0 billion.

Germany and France had the highest level of exports of dairy products and ice cream in 2004, valued at EUR 5.2 billion and EUR 4.3 billion. Denmark, Ireland, the Baltic States, Greece, Luxembourg and the Netherlands were the most specialised exporters of dairy products and ice cream.

Table 4.13

Dairy products and ice cream (CPA Group 15.5)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Dairy products and ice cream	5 316	0.6	0.7	876	0.1	0.1	4 440	606.6
Dairy products	5 200	0.6	0.7	856	0.1	0.1	4 345	607.8
Ice cream and other edible ice	116	0.0	0.0	21	0.0	0.0	95	557.1

Source: Eurostat, Comext

4.4: BREAD, SUGAR, CONFECTIONERY AND OTHER FOOD PRODUCTS

This subchapter is defined in terms of NACE Group 15.8 which covers the manufacture of bread, sugar, confectionery and other food products (including pasta, tea, coffee, homogenised and dietetic foods). This sector has been given its own subchapter in this edition of European Business as it is the largest NACE group within food, beverages and tobacco manufacturing. As such, information on bread, sugar, confectionery and other food products (NACE Group 15.8) has been separated from miscellaneous food products (as covered by NACE Groups 15.3, 15.4, 15.6 and 15.7).

According to the Federation of Bakers (12), per capita consumption of bread in the EU-15 varied from a high of around 80 kg per inhabitant in Germany and Austria, to less than 50 kg per capita in Ireland and the United Kingdom. The bread industry produced approximately 25 million tonnes of bread in 2002 in the EU-15. Rapid growth in the consumption of wholemeal bread products can be associated with increased consumer awareness as regards its dietary benefits.

The EU-15's biscuit industry tends to be dominated by multinational corporations. The market for sugar confectionery, chocolate products, biscuits and baked goods is relatively mature, and there was little change in the volume of production of these items during the period 2001 to 2003 (see Figure 4.8).

The area devoted to growing sugar beet in the EU-15 has diminished steadily according to CEFS (13). The reductions may be attributed to increased yields, while at the same time less farms have been growing sugar beet, perhaps because lower sugar intervention prices have led farmers to substitute sugar beet by other crops. This pattern of consolidation was also observed in relation to a sharp decline in the number of sugar processing factories in the EU-15 during the period 1995 to 2003, although the level of sugar production remained fairly unchanged between 14.9 and 17.9 million tonnes over the last decade (see Figure 4.9).

(12) More information at: <http://www.bakers-federation.org.uk>.

(13) CEFS (European Committee of Sugar Industries), more information at: <http://www.cefs.org>.

Global output of pasta was estimated by UNAFPA (14) to be 10.4 million tonnes in 2003, with Italy accounting for almost 30 % of this total (3.0 million tonnes). As such, approximately 75 % of the EU's (15) output of pasta was made in Italy (see Table 4.14). The highest per capita consumption of pasta was unsurprisingly also registered in Italy, where each person consumed an average of 28 kg of pasta in 2003, which was more than three times higher than the second ranked Member State, Greece, where an average of 8.7 kg of pasta was consumed per person.

(14) UNAFPA (Union of Organisations of Manufacturers of Pasta Products in the European Communities), more information at: <http://www.pasta-unafpa.org>.

(15) EU-15 excluding Belgium, Denmark, Ireland, Luxembourg, the Netherlands and Finland; Sweden, 2003.

Figure 4.8 Production trends for sugar confectionery, chocolate products, biscuits and baked goods, EU-15 (million tonnes)

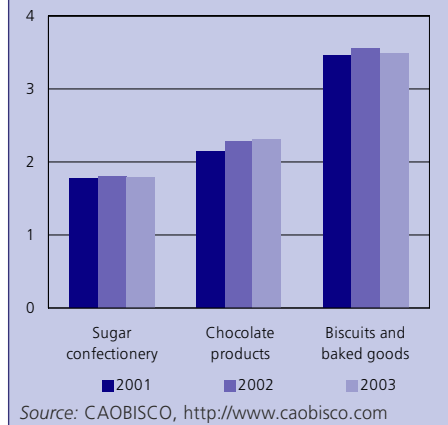


Figure 4.9 Sugar production, EU-15 (expressed in million tonnes of white sugar)

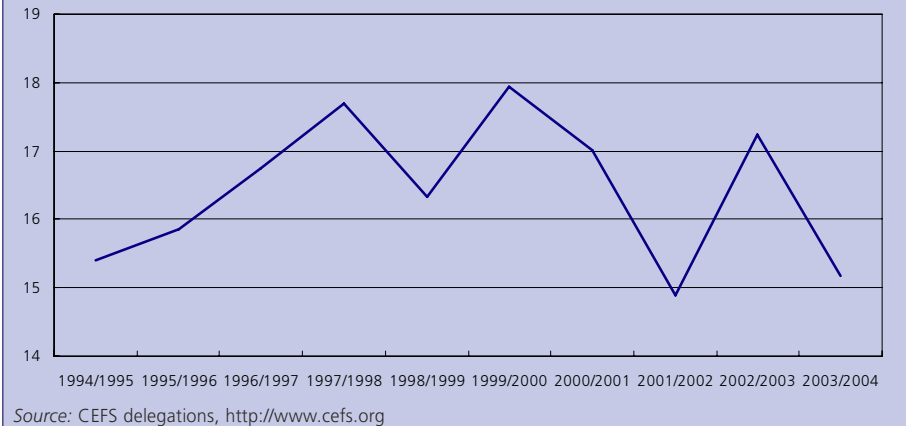


Table 4.14 The pasta industry, EU sum (1)

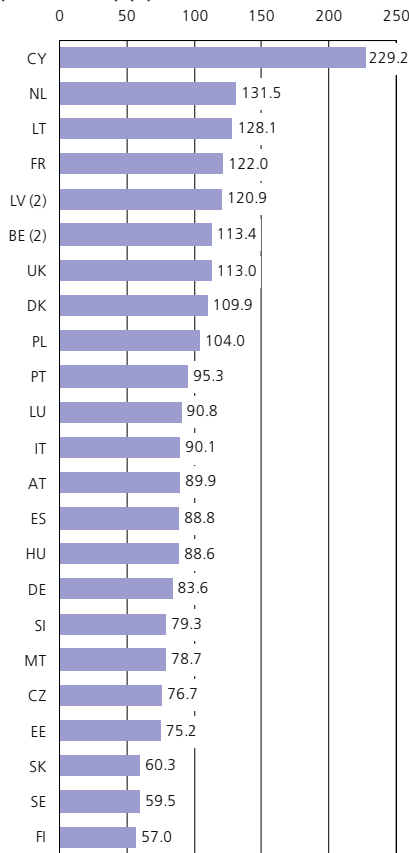
	1993	1998	2003	2004 (2)
Persons employed (units)	15 930	12 890	13 713	11 745
Production (tonnes)	3 455 571	3 875 982	3 965 795	4 106 375
Consumption (tonnes)	2 439 845	2 992 778	3 030 259	3 121 414

(1) EU-15 excluding Denmark, Ireland and Finland.

(2) Benelux countries, not available; Sweden, 2003.

Source: UNAFPA-UNIPI, <http://www.pasta-unafpa.org>

Figure 4.10
Manufacture of other food products (NACE Group 15.8)
Value added specialisation ratio (relative to the industrial average), 2002 (EU-25=100) (1)



(1) Greece and Ireland, not available.
 (2) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The bread, sugar, confectionery and other food products sector accounted for 36.7 % of the value added generated in the EU-25's food and beverages sector in 2002, while employing as many as 43.2 % of the food and beverages workforce, equivalent to almost 2 million persons. As such, it was by far the largest of the NACE groups that make-up the EU-25's food and beverages sector.

Table 4.15
Manufacture of other food products (NACE Group 15.8)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Employment specialisation (EU-25=100) (4)
1	Germany (21.1)	Cyprus (229.2)	Germany (22.1)	Cyprus (262.1)
2	United Kingdom (17.8)	Netherlands (131.5)	France (15.1)	Netherlands (145.3)
3	France (16.5)	Lithuania (128.1)	Italy (11.8)	France (126.3)

(1) Belgium, Greece and Latvia, not available.
 (2) Belgium, Greece, Ireland and Latvia, not available.
 (3) Greece, not available.
 (4) Greece, Ireland and Latvia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Germany had the highest value added for the bread, sugar, confectionery and other food products sector at EUR 13.8 billion in 2002, while the United Kingdom and France were the only other Member States to report output above EUR 10 billion (16). In relative terms, the bread, sugar, confectionery and other food products sector was important to the industrial economies of Cyprus, the Netherlands, Lithuania, France and Latvia, where it contributed at least 20 % more than the EU-25 average to national industrial value added (17).

During the period 1993 to 2004 the EU-25's production index for the branch of bread, sugar, confectionery and other food products grew every year except for 2003, when output fell by 1.1 %. Average annual growth was 1.8 %, some 0.1 percentage points higher than for the food and beverages sector.

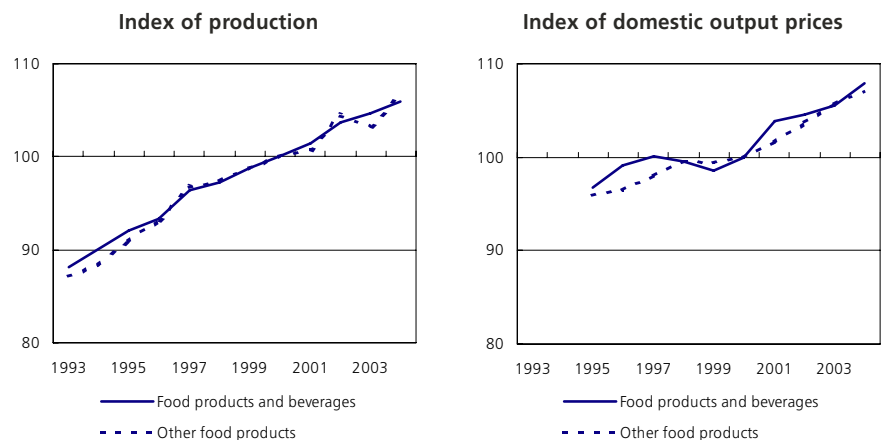
(16) Belgium and Latvia, 2001; Greece, not available.
 (17) Belgium and Latvia, 2001; Greece and Ireland, not available.

At a more detailed level, the most significant expansions in production were recorded for condiments and seasonings (NACE Class 15.97), homogenised food preparations and dietetic food (NACE Class 15.98) and the miscellaneous collection of other food products n.e.c. (NACE Class 15.99) (18).

EU-25 domestic output prices for the branch of bread, sugar, confectionery and other food products rose on average by 1.2 % per annum during the period 1995 to 2004, which was an identical pace to that displayed for the whole of food and beverages. Price increases tended to be higher for those branches that reported an expansion in activity, while output prices fell for tea and coffee (NACE Class 15.86).

(18) Note that part of the growth for the branch covering the manufacture of other food products n.e.c. may be attributed to the introduction of new food processing activities that do not fit under headings for more established food processing activities.

Figure 4.11
Manufacture of other food products (NACE Group 15.8)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The bread, sugar, confectionery and other food products sector had a relatively high proportion of micro enterprises (with 1 to 9 persons employed), which accounted for 14.5 % of EU-25 value added in 2001 (compared with a food and beverages average of 8.8 %). One area where micro enterprises played a particularly important role was in the manufacture of bread. According to the Federation of Bakers, traditional craft bakers continued to account for the biggest share of bread output in France, Italy and Germany in 2002 (despite in-roads being made by industrial bakers). However, industrial bakers dominated markets in Ireland, the Netherlands and the United Kingdom, where they accounted for upwards of 70 % of production. The pattern of a shift towards industrial plant bakeries may be explained, in part, by commercial pressures to supply large retail networks and the introduction of new technologies that have led to the development of frozen and partly baked bread products.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's bread, sugar, confectionery and other food products sector (EUR 34 200) was below the average for the whole of food and beverages (EUR 40 200) in 2002. Average personnel costs were also lower than those recorded for the whole of food and beverages, as each employee within the bread, sugar, confectionery and other food products sector cost an average of EUR 22 800 in 2002, compared with EUR 25 300 for food and beverages. As a result, the wage adjusted labour productivity ratio for the bread, sugar, confectionery and other food products sector was 150.0 %, compared with 159.1 % for the whole of food and beverages.

Table 4.16

Manufacture of other food products (NACE Group 15.8)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (218.6)	Ireland (35.1)	Ireland (622.1)	Ireland (34.8)
2	United Kingdom (58.0)	Sweden (34.1)	Latvia (225.7)	Malta (23.0)
3	Finland (46.1)	Finland (31.4)	United Kingdom (190.4)	Latvia (21.7)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Across the Member States (for which data are available) this pattern was often repeated. Indeed, both apparent labour productivity and average personnel costs for the bread, sugar, confectionery and other food products sector were below industrial averages in every Member State in 2002. The same was often true for wage adjusted labour productivity, although these ratios were slightly above national industrial averages in Germany, the United Kingdom and Slovenia.

The bread, sugar, confectionery and other food products sector was relatively profitable in 2002, in so far as the gross operating rate for the EU-25 was 13.1 %, which was the second highest among the NACE groups that make-up the food and beverages sector (behind beverages). Gross operating rates were relatively high in Luxembourg, Malta, Italy, France and Germany in relation to national industrial averages.

EXTERNAL TRADE

Extra EU-25 exports of other food products (CPA Group 15.8) in 2004 were valued at EUR 11.3 billion, while imports were valued at approximately half this amount (EUR 5.6 billion). As a result, the EU-25 recorded a trade surplus of EUR 5.7 billion for other food products; only beverages recorded a higher trade surplus among the nine CPA groups that make-up food products and beverages. Other food products accounted for 25.1 % of all the EU-25's food and beverage exports in 2004 and for 13.9 % of all food and beverage imports.

At a more detailed level, there were three CPA classes that each accounted for approximately 20 % of other food product exports: they were cocoa, chocolate and sugar confectionery (CPA Class 15.84), the miscellaneous collection of other food products n.e.c. (CPA Class 15.89) and coffee and tea (CPA Class 15.86). Among these the most rapid growth in exports between 1999 and 2004 was recorded for coffee and tea products, while there was also rapid export growth for condiments and seasonings (CPA Class 15.87) and homogenised food preparations and dietetic food (CPA Class 15.88).

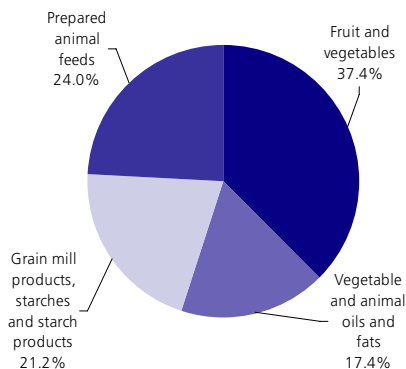
Imports of other food products were concentrated among sugar (CPA Class 15.83), cocoa, chocolate and sugar confectionery and other food products n.e.c. The most rapid import growth between 1999 and 2004 was recorded for homogenised food preparations and dietetic food (although these accounted for a very low share of total imports), rusks and biscuits, preserved pastry goods and cakes (CPA Class 15.82), cocoa, chocolate and sugar confectionery, and pasta (CPA Class 15.85).

4.5: MISCELLANEOUS FOOD PRODUCTS

This subchapter deals with four different food processing activities that are each treated separately: the processing and preserving of fruit and vegetables (NACE Group 15.3); vegetable and animal oils and fats (NACE Group 15.4); grain mill and starch products (NACE Group 15.6); and prepared animal feed (NACE Group 15.7).

Of the four groups covered by this subchapter, the processing and preserving of fruit and vegetables (NACE Group 15.3) was the largest in value added terms (EUR 10.8 billion for the EU-25 in 2002). It was followed by the manufacture of grain mill and starch products and prepared animal feeds (NACE Groups 15.7 and 15.6) with EUR 6.9 billion and EUR 6.1 billion of value added respectively. The smallest subsector was the manufacture of vegetable and animal oils and fats (NACE Group 15.4) with a value added of EUR 5.0 billion. Together these four activities created EUR 28.8 billion of added value and accounted for 16.2 % of food and beverages value added.

Figure 4.12
Miscellaneous food products
(NACE Group 15.3, 15.4, 15.6 and 15.7)
Breakdown of sectoral value added,
EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PROCESSING AND PRESERVING OF FRUIT AND VEGETABLES (NACE GROUP 15.3)

The EU-25's processing and preserving of fruit and vegetables subsector accounted for a 6.1 % share of EU-25 value added within the whole of the food and beverages sector. There were 266 000 persons employed in this activity in 2002, some 6.0 % of the food and beverages workforce. Medium-sized enterprises (with 50 to 249 persons employed) made a relatively high contribution to EU-25 value added within this subsector in 2001, as they provided 31.6 % of value added, which was 8 percentage points higher than the average for food and beverages.

In monetary terms, the United Kingdom was the leading producer⁽¹⁹⁾ of processed and preserved fruit and vegetables in 2002, with EUR 2.2 billion of added value, equating to 20.3 % of the EU-25 total. In employment terms the situation was quite different, as the highest number of persons employed⁽²⁰⁾ was recorded in Poland (37 500), which contributed 14.1 % to the EU-25 total.

The volume of production for canned and bottled fruit and vegetables is shown in Table 4.17. According to OEITFL⁽²¹⁾, France produced far more canned and bottled vegetables than any other Member State, some 1.2 billion units in 2004, while Greece was the largest producer of canned and bottled fruit (366 million units). The output of frozen vegetables (excluding mixed vegetables and sweet corn) in the EU-15 rose from just under 2.1 million tonnes in 1998 to just over 2.5 million tonnes by 2004.

⁽¹⁹⁾ Belgium and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

⁽²⁰⁾ Greece, Ireland and Luxembourg, not available.

⁽²¹⁾ OEITFL (Association of European Fruit and Vegetable Processing Industries), more information at: <http://www.oeitfl.org>.

Table 4.17

Production of canned and bottled fruit and vegetables in selected Member States, 2004 (thousands of 850ml packaging)

	Vegetables (1)	Fruit
BE (2)	185 334	35 000
DE (3)	97 000	:
EL	:	365 500
ES	259 300	267 850
FR	1 206 941	263 108
IE (3)	7 000	:
IT (4)	247 500	242 000
NL	478 100	113 590
AT (5)	30 000	163 164
PL (3)	120 000	:
FI	15 403	:
UK (4)	163 278	19 716

(1) Excluding baked beans.

(2) Fruit, estimate.

(3) Vegetables, estimate.

(4) Fruit, 2001

(5) Vegetables, estimate; fruit, 2002.

Source: OEITFL - Association of European Fruit and Vegetable Processing Industries, <http://www.oeitfl.org>

VEGETABLE AND ANIMAL OILS AND FATS (NACE GROUP 15.4)

The EU is one of the world's leading producers of rapeseeds (together with China), while its production of other oilseeds is generally less significant. In terms of processed oil the most important global products are soybean oil, palm oil, rapeseed oil, sunflower oil, and ground nut oil. According to FEDIOL⁽²²⁾, the volume of crude vegetable oils and fats produced in the EU-15 was 8.6 million tonnes in 2003 (see Table 4.18); with a move from the manufacture of basic to refined oils that has in part been driven by the desire to seek higher added value products and also by changes in consumption patterns that have been driven by concerns over healthy eating.

According to IMACE⁽²³⁾, the production of margarine and similar spreads in the EU was reduced considerably between 1995 and 2003, such that output fell to approximately 2.5 million tonnes in 2003. Nowhere was this trend more apparent than in Germany, where the reduction amounted to 167 000 tonnes (see Table 4.19).

The vegetable and animal oils and fats subsector is relatively small in comparison with the other groups that form the food and beverages sector. It employed a total of 68 000 persons in 2002 across the whole of the EU-25, while generating added value of just over EUR 5.0 billion.

Germany recorded the highest value added in 2002⁽²⁴⁾, at EUR 977 million, or 19.5 % of the EU-25 total. A breakdown of employment suggests that there were wide disparities in productivity levels, as Italy (19.3 %) and Spain (18.5 %) accounted for the highest shares of the EU-25's workforce⁽²⁵⁾, both employing close to 13 000 persons. Each person employed in the EU-25's vegetable and animal oils and fats subsector generated an average of EUR 73 700 of value added in 2002, some EUR 33 500 more than the average for food and beverages. Despite relatively high average personnel costs (EUR 37 500 per employee), the vegetable and animal oils and fats subsector recorded the second highest wage adjusted productivity ratio (196.4 %) in the EU-25 among the NACE groups that make-up the food and beverages sector (only beverages

⁽²²⁾ FEDIOL (EC Seed Crushers' and Oil Processors' Federation), more information at: <http://www.fediol.be>.

⁽²³⁾ IMACE (International Margarine Association of the Countries of Europe), more information at: <http://www.imace.org>.

⁽²⁴⁾ Belgium, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta, Austria and Poland, not available.

⁽²⁵⁾ Denmark, Estonia, Greece, Ireland, Lithuania, Luxembourg, Malta, Austria and Poland, not available.

Table 4.18
Production of crude vegetable oils, fats and oilseeds, EU-15, 2003 (thousand tonnes)

Total oilseeds	13 312
Soyabeans	470
Rapeseeds	9 467
Sunflower seeds	2 552
Cottonseeds	710
Linseeds	112
Total crude vegetable oils and fats	8 559
Groundnut	7
Soya	2 876
Rape	3 605
Sunflower	1 547
Cotton	91
Other liquid oils	44
Copra	11
Palmkernel	0
Other lauric oils	0
Linseed oil	168
Castor oil	3
Maize germ oil	197
Grape pips oil	10

Source: Fediol - EC Seed Crushers' and Oil Processors' Federation, <http://www.fediol.be>

was higher). In Hungary, the United Kingdom, the Netherlands, Germany, France and Slovakia, productivity ratios were more than 70 % higher than national industrial averages in 2002.

The EU-25's index of production for vegetable and animal oils and fats (NACE Group 15.4) fell during three consecutive years from 1993 to 1996, after which there was growth of 14.7 % in 1997 and a contraction of 11.1 % in 1999. Thereafter, output generally declined at more modest rates, losing an average of 1.8 % per annum during the period 1999 to 2004. The reduction in output was almost entirely attributable to a decline in the manufacture of crude oils (NACE Class 15.41), while output continued more or less unchanged for refined oils (NACE Class 15.42).

The EU-25 was a net importer of vegetable and animal oils and fats (CPA Group 15.4), as exports of EUR 2.3 billion could be compared with imports of EUR 8.3 billion in 2004. The vast majority (almost 90 %) of the EU-25's imports were of crude oils and fats (CPA Class 15.41).

GRAIN MILL AND STARCH PRODUCTS (NACE GROUP 15.6)

The grain mill and starch products subsector (NACE Group 15.6) is also relatively small in size, generating EUR 6.1 billion of added value

Table 4.19
Production of margarine, fat spreads, three quarter fat and half fat margarine, blends, blended spreads, three quarter fat and half fat blends (tonnes)

	1995	2000	2003
EU-25 (1)	3 160 181	2 650 779	2 480 363
BE/LU	275 434	280 935	267 701
CZ (2)	83 180	90 820	90 820
DK	124 000	62 666	68 000
DE	648 360	568 135	481 121
EE	:	:	:
EL (3)	35 962	38 923	58 566
ES (4)	84 479	84 804	86 197
FR	164 500	136 750	74 650
IE (2)	17 450	14 345	14 345
IT	82 366	58 448	66 078
CY	:	:	:
LV	:	:	:
LT	:	:	:
HU (3)	72 800	62 224	59 747
MT	:	:	:
NL	340 334	268 930	289 317
AT (5)	48 536	43 472	30 552
PL	380 000	311 297	296 058
PT (4)	41 905	49 830	49 825
SI	:	:	:
SK	:	:	:
FI	99 400	52 700	55 300
SE	176 475	137 800	82 886
UK (4)	485 000	388 700	409 200

(1) Sum of available data.

(2) 1999 instead of 2000 and 2003.

(3) 1999 instead of 2000.

(4) 2001 instead of 2003.

(5) Estimates.

Source: IMACE (International Margarine Association of the Countries of Europe), <http://www.imace.org>

in 2002 and employing almost 110 000 persons. These figures equated to a 3.4 % share of value added and a 2.5 % share of employment with respect to the EU-25's food and beverages sector.

The production index for grain mill and starch products rose almost continuously during the period 1995 to 2001, with an interruption in 1999 when output declined by 1.2 %. Thereafter there was almost no change in the level of output within the EU-25 between 2001 and 2004.

The value of external trade of grain mill products, starches and starch products (CPA Group 15.6) was relatively small, accounting for 4.1 % of EU-25 exports and 2.1 % of EU-25 imports of food products and beverages in 2004. The EU-25 ran a trade surplus of just over EUR 1.0 billion in 2004.

PREPARED ANIMAL FEED (NACE GROUP 15.7)

Demand for animal feed is closely linked to developments within livestock activities, and despite recent animal health epidemics (which caused year on year fluctuations), the overall picture was one of rising output for the EU-15's compound feed sector (see Table 4.20). According to FEFAC ⁽²⁶⁾, compound feed production in the EU-15 reached 143.3 million tonnes in 2004.

⁽²⁶⁾ FEFAC (European Feed Manufacturers Federation), more information at: <http://www.fefac.org>.

The EU-25's output of prepared animal feed was valued at EUR 6.9 billion in 2002. This figure was equivalent to 3.9 % of the value added generated by the EU-25's food and beverages sector. The prepared animal feed subsector employed just over 130 000 persons in 2002, which equated to a 3.0 % share of the EU-25's food and beverages workforce. There was a relatively high proportion of SMEs (with 1 to 249 persons employed) within the prepared animal feed subsector. Together they contributed 60.1 % to EU-25 value added in 2001, compared with a food and beverages average of 45.8 %.

EU-25 output of prepared animal feed generally rose at a modest pace between 1993 and 1999. However, between 2000 and 2004 there was only one year when an expansion in production was recorded, with a 2.0 % increase in 2001.

Table 4.20
Production of industrial compound feed, EU-15 (thousand tonnes)

	1995	2000	2004 (1)
Cattle	35 705	34 204	37 120
Pigs	40 477	43 099	47 878
Poultry	35 281	37 158	46 642
Milk replacers	1 950	1 838	1 609
Dry pet food	553	649	1 085
Others	7 756	7 398	8 969
Total	121 722	124 346	143 303

(1) Forecast.
Source: FEFAC - European Feed Manufacturers Federation, <http://www.fefac.org>

4.6: BEVERAGES

NACE Group 15.9 covers both alcoholic and non-alcoholic beverages. As such, the data presented in this subchapter includes information on the manufacture of mineral waters, soft drinks, beer, wine and spirits. However, excluded are fruit and vegetable juices (NACE Class 15.32 - see Subchapter 4.5) or the processing of tea and coffee (NACE Class 15.86 - see Subchapter 4.4).

The share of beverages in final consumption expenditure (a breakdown of household expenditure) in the EU-25 remained almost unchanged between 1995 and 2003. There was no change in the relative importance of non-alcoholic beverages which accounted for 1.2 % of expenditure, while there was a slight reduction in the relative importance of alcoholic beverages from 1.8 % to 1.7 %. Particularly high shares of consumption expenditure were devoted to alcoholic beverages in the Baltic States and Hungary (5 % or more), while in the southern Member States of Greece, Spain and Italy alcoholic beverages accounted for less than 1 % of consumption expenditure ⁽²⁷⁾.

⁽²⁷⁾ Greece, Spain, Latvia, Austria and Portugal, 2002; Cyprus and Lithuania, 2001; Malta and Poland, not available.

Table 4.21
Manufacture of beverages (NACE Group 15.9)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (17.9)	Latvia (373.5)	Germany (18.5)	Cyprus (442.8)
2	Germany (16.3)	Cyprus (351.1)	United Kingdom (12.2)	Malta (223.2)
3	France (14.6)	Malta (279.7)	Spain (11.7)	Lithuania (177.9)

(1) Belgium and Latvia, 2001; Greece and the Netherlands, not available.

(2) Belgium and Latvia, 2001; Greece, Ireland and the Netherlands, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EU-25 per capita consumption of bottled water was equivalent to 104 litres in 2003, according to a survey conducted by CANADEAN for EFBW ⁽²⁸⁾. Still water accounted for the majority of the bottled water that was consumed in the EU-25, some 26.8 billion litres in 2003, while 20.0 billion litres of sparkling water were consumed. By far the highest consumption per capita was recorded in Italy (198 litres per capita), while France, Belgium, Spain and Germany were the only other Member States to report consumption per head above the EU average ⁽²⁹⁾ (see Table 4.22).

After water, traditional sugar sweetened carbonated non-alcoholic beverages remain the most popular consumer option of non-alcoholic

⁽²⁸⁾ EFBW (European Federation for Bottled Waters), more information at: <http://www.efbw.org>.

⁽²⁹⁾ Cyprus, Luxembourg and Malta, not available.

beverages. Their consumption rose at a relatively modest pace (0.8 % per annum) during the period 1996 to 2004 (see Table 4.23). Annual sales in the non-alcoholic beverages subsector (including fruit juices) were valued at more than EUR 38 billion in 2004 according to UNESDA ⁽³⁰⁾.

Table 4.24 shows that beer production in the EU ⁽³¹⁾ reached 34 billion litres in 2004. By far the highest level of output was in Germany (10.6 billion litres), where the highest per capita consumption was also recorded (115.8 litres). Ireland, Luxembourg, Austria and the United Kingdom also reported per capita beer consumption in excess of 100 litres per inhabitant.

⁽³⁰⁾ UNESDA (Union of EU Soft Drinks Associations), more information at: <http://www.unesda-cisda.org>.

⁽³¹⁾ The Brewers of Europe, more information at: <http://www.brewersofeurope.org>; Greece, Spain and Luxembourg, 2003; the Czech Republic, Estonia, Cyprus, Latvia, Hungary, Malta, Slovenia and Slovakia, not available.

According to the Directorate-General for Agriculture, EU-25 wine production reached 17.0 billion litres in 2004, with France, Italy and Spain accounting for approximately 80 % of the volume produced.

According to WHO figures, the consumption of spirits in the EU-25 was almost halved between 1980 and 2002, such that just over 10 litres were consumed per capita.

Table 4.22
Consumption of water, EU (1)

	2000	2001	2002	2003
(millions of litres)				
Bottled waters	38 350	40 557	42 380	46 709
Bottled water <= 10 liters	37 445	39 413	41 016	45 098
Mineral water	31 705	33 191	34 455	38 082
Non-mineral water	5 740	6 222	6 562	7 016
Bottled water > 10 liters	905	1 145	1 364	1 611
(litres per capita)				
Bottled waters	85	90	94	104
Bottled water <= 10 liters	83	88	91	100
Mineral water	70	74	77	85
Non-mineral water	13	14	15	16
Bottled water > 10 liters	2	3	3	4

(1) EU-25 excluding Cyprus, Luxembourg and Malta.

Source: EFBW - European Federation for Bottled Waters, <http://www.efbw.org>

Table 4.23
Total consumption of non-alcoholic beverages, EU (million litres) (1)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Water	32 358	33 990	35 528	37 067	39 205	41 028	41 065	45 348	43 522
Carbonates	29 460	30 830	31 311	32 399	33 293	33 826	32 195	32 456	31 435
Other non-alcoholic beverages (2)	12 707	12 178	12 384	12 549	12 855	13 235	13 978	15 424	15 167

(1) EU-25 excluding Cyprus, Luxembourg and Malta.

(2) Includes fruit squashes/syrups, iced tea/coffee, sports and energy drinks.

Source: UNESDA - Union of EU Soft Drinks Associations, <http://www.unesda-cisda.org>

Table 4.24
Beer industry, 2004

	Production (million litres)	Consumption (million litres)	Consumption per capita (litres)
BE	1 741	970	93.0
CZ	:	:	:
DK	855	486	90.1
DE	10 619	9 555	115.8
EE	:	:	:
EL (1)	408	391	39.0
ES (1)	3 067	3 345	78.3
FR	1 680	2 020	33.4
IE	521	521	108.0
IT	1 317	1 719	29.6
CY	:	:	:
LV	:	:	:
LT	271	279	81.2
LU (1)	39	37	106.6
HU	:	:	:
MT	:	:	:
NL	2 383	1 269	77.9
AT	867	888	108.6
PL	2 920	2 726	75.0
PT	744	627	61.7
SI	:	:	:
SK	:	:	:
FI	462	437	84.0
SE	379	464	51.5
UK	5 746	5 920	100.8
NO	223	249	55.0
CH	347	426	57.3

(1) 2003.

Source: The Brewers of Europe,
<http://www.brewersofeurope.org>

The beverages sector is dominated by multinational enterprises that often use high advertising budgets and branding to differentiate their products, be they alcoholic or non-alcoholic. It is also characterised by a relatively high level of innovation, which can be witnessed in the increasing range of products over the past decade, for example, the use of herbs, plant-extracts, coffee and tea to flavour non-alcoholic drinks, reduced-sugar and sugar-free drinks, flavoured waters, sports and isotonic drinks, as well as bottled beers and alcopops.

STRUCTURAL PROFILE

The output of the EU-25's beverages sector was relatively high, as EUR 33.4 billion of value added was generated in 2002, equivalent to 18.2 % of the food and beverages total. There were 447 000 persons employed in the EU-25's beverages sector in 2002, accounting for 10.1 % of the food and beverages workforce. Large enterprises (with 250 or more persons employed) contributed 64.9 % to EU-25 value added in 2001 (compared with an average of 52.8 % for the whole of food and beverages).

The United Kingdom had the highest level of value added within the beverages sector⁽³²⁾, some EUR 6.0 billion in 2002, or 17.9 % of the EU-25 total. The second largest producer of beverages was Germany (16.3 % of the EU-25 total); ahead of France (14.6 %) and Spain (11.9 %). There were 82 900 persons employed in the beverages sector in Germany in 2002, which was 18.5 % of the EU-25 total. The German workforce numbered almost 30 000 more than in the United Kingdom, where 54 400 persons were employed.

(32) Belgium and Latvia, 2001; Greece and the Netherlands, not available.

During the period 1993 to 2004 the EU-25's output of beverages fell in 1998, 2000 and 2004. The most recent evolution of the index of production from 2000 onwards shows only a modest increase in the level of output through to 2004 in the EU-25. There were however quite distinct trends among the different beverages, with the production of wine (NACE Class 15.93) growing by 10 % overall between 2000 and 2002, after which it stabilised. There was also a relatively rapid expansion in the production of malt and the production of mineral waters and soft drinks.

PRODUCTIVITY AND PROFITABILITY

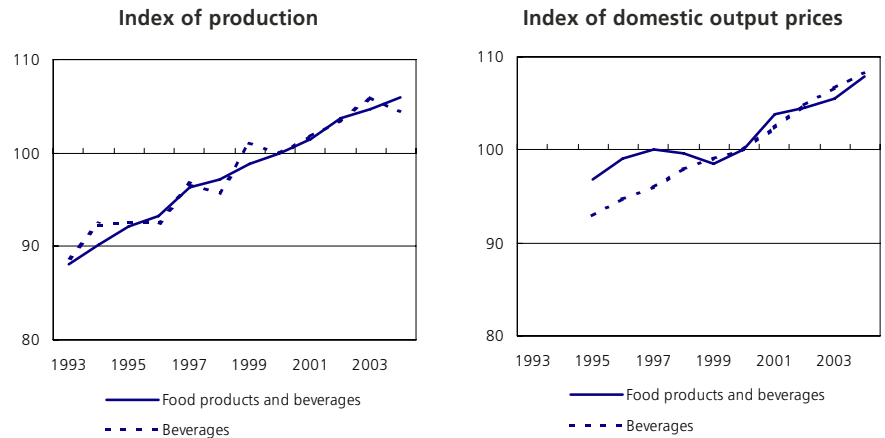
Each person employed in the EU-25's beverages sector generated an average of EUR 74 700 of added value in 2002, which was EUR 34 500 higher than the food and beverages average. As such, beverages recorded the highest apparent labour productivity among the nine NACE groups that make-up the food and beverages sector. The EU-25's wage adjusted labour productivity ratio for the beverages sector was also the highest recorded across the whole of food and beverages, at 210.4 % in 2002.

The beverages sector was also the most profitable among the NACE groups that make-up the food and beverages sector, in so far as the EU-25's gross operating rate in 2002 was 14.4 %, some 5 percentage points above the food and beverages average.

EXTERNAL TRADE

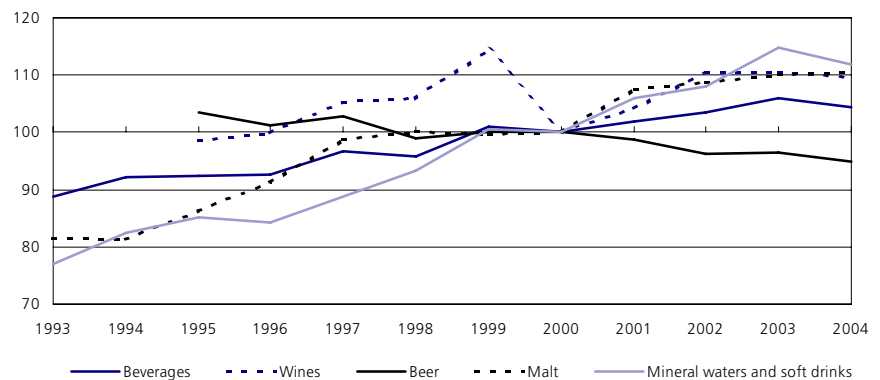
Beverages (CPA Group 15.9) accounted for just over 30 % of the EU-25's exports of food products and beverages in 2004, with an export value of EUR 13.6 billion. In contrast, the EU-25 imported beverages to the value of EUR 3.9 billion in the same year, resulting in a net surplus of EUR 9.7 billion. By far the most important contribution to the EU-25's trade surplus for beverages came from distilled alcoholic beverages (CPA Class 15.91), with a surplus of EUR 4.3 billion.

Figure 4.13
Manufacture of beverages (NACE Group 15.9)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 4.14
Manufacture of beverages (NACE Group 15.9)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 4.25
Manufacture of beverages (NACE Group 15.9)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (233.2)	Ireland (54.1)	Latvia (569.4)	Latvia (54.5)
2	United Kingdom (109.9)	Belgium (50.4)	Ireland (431.4)	Malta (40.0)
3	France (103.1)	United Kingdom (49.9)	Poland (353.1)	Poland (36.9)

(1) Belgium and Latvia, 2001; Greece and the Netherlands, not available.
(2) Belgium and Latvia, 2001; Greece, Cyprus and the Netherlands, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 4.26
Beverages (CPA Group 15.9)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Beverages	13 627	1.5	1.7	3 907	0.4	0.4	9 720	348.8
Distilled alcoholic beverages	5 137	0.6	0.7	830	0.1	0.1	4 306	618.7
Ethyl alcohol	47	0.0	0.0	100	0.0	0.0	-54	46.7
Wines	4 432	0.5	0.6	2 521	0.3	0.2	1 911	175.8
Cider and other fruit wines	43	0.0	0.0	16	0.0	0.0	27	273.4
Other non-distilled fermented beverages	108	0.0	0.0	4	0.0	0.0	104	2 675.0
Beer made from malt	1 712	0.2	0.2	208	0.0	0.0	1 504	821.4
Malt	757	0.1	0.1	1	0.0	0.0	756	75 440.8
Mineral waters and soft drinks	1 390	0.2	0.1	225	0.0	0.0	1 165	617.1

Source: Eurostat, Comext

4.7: TOBACCO

NACE Division 16 covers the manufacture of all tobacco products, namely, cigarettes, cigarette tobacco, cigars, pipe tobacco, chewing tobacco and snuff.

Smoking tobacco is estimated to account for over half a million deaths each year in the EU-25, according to the European Commission's Directorate-General for Public Health. The European Commission has worked hard to introduce a comprehensive tobacco control policy, which is particularly focused on legislative measures and support for Europe-wide smoking prevention. The reduction in tobacco consumption in the EU-25 during the past decade may be associated with the introduction of smoking bans in workplaces

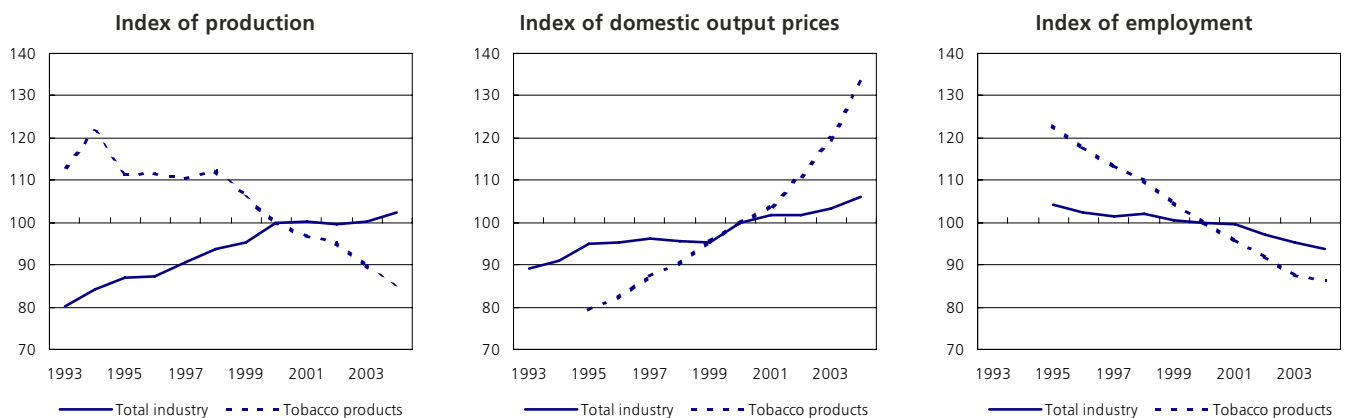
and public places, tobacco advertising bans, health education campaigns, as well as higher taxes on tobacco products. A number of Member States (notably Belgium, Ireland, Italy, Malta and Sweden) have recently passed legislation that bans or restricts smoking in the workplace and/or public places, while proposals to introduce similar legislation have been made in a number of other Member States. The tobacco products Directive 2001/37/EC ensured that from 1 January 2004, the yield of cigarettes in the Member States should not be greater than 10 mg per cigarette for tar, 1 mg per cigarette for nicotine, and 10 mg per cigarette for carbon monoxide. The Directive also stipulated that the packaging of tobacco products should carry large warnings as to the risks associated with smoking.

Tobacco products accounted for an average of 2.1 % of household expenditure in the EU-25 in 2003, a share that ranged from 8.2 % in Luxembourg⁽³³⁾ down to a low of 1.2 % in Lithuania⁽³⁴⁾.

⁽³³⁾ This figure is likely a result from the relatively cheap price of tobacco products, leading to purchases being made by persons from neighbouring Member States or those passing through Luxembourg.

⁽³⁴⁾ Greece, Spain, Latvia, Austria and Portugal, 2002; Cyprus and Lithuania, 2001; Malta and Poland, not available.

Figure 4.15
Manufacture of tobacco products (NACE Division 16)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 4.27

Manufacture of tobacco products (NACE Division 16)**Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002**

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	United Kingdom (305.8)	United Kingdom (74.4)	Ireland (587.2)	Portugal (27.3)
2	Ireland (264.7)	Germany (72.2)	United Kingdom (411.0)	Spain (15.9)
3	Denmark (185.7)	France (52.7)	Denmark (393.4)	Ireland (12.5)

(1) Belgium, Ireland and Cyprus, 2001; the Czech Republic, Estonia, Greece, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Slovenia, Slovakia and Sweden, not available.

(2) Belgium and Ireland, 2001; the Czech Republic, Estonia, Greece, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Slovenia, Slovakia and Sweden, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The value added generated by the EU-25's tobacco products sector equated to EUR 9.0 billion in 2001, while 67 700 persons were employed. The tobacco products sector accounted for 4.9 % of the added value within the food, beverage and tobacco sector. In contrast, its workforce was relatively small, comprising just 1.5 % of those persons employed in the whole of the food, beverages and tobacco sector in 2001. Just over 40 % of the EU-25's value added in the tobacco products sector was generated within Germany and the United Kingdom in 2001. The tobacco products sector is particularly dominated by large enterprises (with 250 or more persons employed), which accounted for 81.5 % of EU-25 value added in 2001.

The EU-25's production index for tobacco products (NACE Division 16) fluctuated from one year to the next between growth and contraction from 1993 to 1998. However, from 1999 onwards there were six consecutive reductions in the level of output, with an average decline of 4.5 % per annum.

PRODUCTIVITY AND PROFITABILITY

The tobacco products sector recorded very high apparent labour productivity in 2001, with each person employed in the EU-25 generating an average of EUR 133 300 of added value, some 3.2 times higher than for the whole of the food, beverages and tobacco sector. Average personnel costs for the tobacco products sector were EUR 43 500 per employee in the EU-25 in 2001, which was 80 % higher than the average for food, beverages and tobacco.

The gross operating rate of the EU-25's tobacco products sector was 8.5 % in 2001, some 1.3 percentage points lower than the average for the whole of the food, beverages and tobacco sector. Spain and Portugal were the only Member States to report that the profitability of the tobacco products sector, according to this measure, was higher than their national industrial average in 2002.

EXTERNAL TRADE

The level of EU-25 imports and exports of tobacco products (CPA Division 16) declined between 1999 and 2004. At the end of this period, the EU-25 exported just over EUR 4.5 billion of tobacco products, while importing goods to the value of EUR 765 million.

Table 4.28

Manufacture of food products and beverages (NACE Division 15)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	790 943	29 992	9 049	19 809	142 585	900		73 478	144 438	19 284	94 717	1 022					
Production (EUR million) (2)	719 997	27 276	7 912	18 278	129 669	771		69 134	129 570	17 674	90 726	954					
Value added at factor cost (EUR million) (3)	177 778	5 339		4 602	32 782	165		15 421	28 786	5 159	18 776	287					
Gross operating surplus (EUR million) (3)	74 437	2 112		1 672	11 096	61		7 139	10 380	3 548	9 311	117					
Purchases of goods and services (EUR million)		23 329	7 637	15 471	106 275	739		59 925	114 605	13 777	75 992	731					
Gross investment in tangible goods (EUR million)		1 089		924	4 764	73		3 487	5 378	469	3 791	86					
Number of persons employed (thousands)	4 422	93		85	823	19		374	650	50	441	11	35				
Personnel costs (EUR million) (3)	103 341	3 227		2 930	21 686	104		8 282	18 406	1 611	9 465	170					
App. labour productivity (EUR thous./pers. emp.) (3)	40.2	52.7		54.1	39.8	8.5		41.2	44.3	103.2	42.6	25.0					
Average personnel costs (EUR thous./employee) (3)	25.3	35.5		34.9	27.6	5.4		23.7	30.1	32.3	29.7						
Wage adjusted labour productivity (%) (3)	159.1	148.3		154.7	144.5	157.6		173.8	147.1	318.9	143.5						
Gross operating rate (%) (3)	9.4	7.2		8.4	7.8	6.7		9.7	7.2	18.4	9.8	11.4					
Investment per person employed (EUR thousand)		11.7		10.9	5.8	3.7		9.3	8.3	9.4	8.6	7.5					
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)		12 290		10 867		2 624	8 858		107 463	1 991		5 076					15 669
Production (EUR million)		10 848		10 138		2 255	7 934		97 696	1 738		4 612					15 685
Value added at factor cost (EUR million)		3 202		2 264		369	2 115		30 762	266		919					3 990
Gross operating surplus (EUR million)		964		1 036		131	841		14 594	119		509					1 153
Purchases of goods and services (EUR million)		8 861		8 724		2 246	6 852		72 517	1 766		4 819					11 722
Gross investment in tangible goods (EUR million)	1 471	513		630		161	454		4 537	199		627					
Number of persons employed (thousands)	143	78		99		47	40		488	95		202					58
Personnel costs (EUR million)		2 238		1 228		238	1 359		16 169	147		410					2 838
App. labour productivity (EUR thous./pers. emp.)		41.1		22.8		7.9	53.3		63.1	2.8		4.5					69.3
Average personnel costs (EUR thous./employee)		30.4		13.0		5.1	34.8		33.6	1.7		2.1					
Wage adjusted labour productivity (%)		135.2		174.8		154.5	153.3		187.9	164.9		215.9					
Gross operating rate (%)		7.8		9.5		5.0	9.5		13.6	5.9		10.0					7.4
Investment per person employed (EUR thousand)	10.3	6.6		6.3		3.4	11.4		9.3	2.1		3.1					

(1) The Czech Republic, Ireland, Cyprus, Austria and Switzerland, 2001. (2) EU-25, 2001. (3) Belgium, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 4.29

Manufacture of tobacco products (NACE Division 16)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million) (2)	72 018	1 585	747	1 641	18 741	0		1 581	12 357	1 595	10 593	133					
Production (EUR million) (2)	63 667	1 577	627	1 640	15 032	0		1 415	9 797	1 467	8 930	129					
Value added at factor cost (EUR million) (3)	9 024	237		257	1 799	0		517	649	241	352	20					
Gross operating surplus (EUR million) (3)	6 090	122		192	904	0		251	428	200	100	13					
Purchases of goods and services (EUR million)		1 340	469	271	6 667	0		1 090	3 215	249	2 430	48					
Gross investment in tangible goods (EUR million)		36		19	141	0		83	0	8	61	9					
Number of persons employed (thousands) (2)	68	3		1	12	0		6	4	1	8	0	0				
Personnel costs (EUR million) (3)	2 934	115		65	895	0		267	221	41	252	7					
App. labour productivity (EUR thous./pers. emp.) (3)	133.3	78.1		185.7	144.9			84.2	154.9	264.7	42.5	70.3					
Average personnel costs (EUR thous./employee) (3)	43.5	38.3		47.2	72.2			43.7	52.7	45.1	30.6						
Wage adjusted labour productivity (%) (3)	306.7	204.0		393.4	200.7			192.6	293.6	587.2	138.8						
Gross operating rate (%) (3)	8.5	7.8		11.7	4.8			15.9	3.5	12.5	0.9	9.9					
Investment per person employed (EUR thousand)		11.9		14.0	11.3			13.5	0.0	9.1	7.4	29.9					
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)				406			114		14 509	463		583					
Production (EUR million)			2 403	403			97		14 194	459		623					
Value added at factor cost (EUR million)			1 777	173			18		1 832	67		31					
Gross operating surplus (EUR million)			1 648	111			11		1 386	19		4					
Purchases of goods and services (EUR million)			805	215			99		1 882	227		321					
Gross investment in tangible goods (EUR million)	81		96	27			3		126	6		39					
Number of persons employed (thousands)	5			1			0		6	12		5					
Personnel costs (EUR million)			129	63			17		446	48		27					
App. labour productivity (EUR thous./pers. emp.)				126.5			46.4		305.8	5.8		6.3					
Average personnel costs (EUR thous./employee)			13.8	45.7			44.0		74.4	4.1		5.5					
Wage adjusted labour productivity (%)				276.8			105.4		411.0	139.8		115.1					
Gross operating rate (%)			64.2	27.3			9.7		9.6	4.1		0.7					
Investment per person employed (EUR thousand)	16.0			19.5			6.4		21.0	0.5		7.9					

(1) The Czech Republic, Ireland and Cyprus, 2001. (2) EU-25, 2001. (3) EU-25 and Belgium, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Textiles, clothing, leather and footwear



Textile, clothing and leather manufacturing covers the manufacture of a variety of products from high-technology synthetic fabrics to traditional woollen yarns, and from industrial filters to haute couture that graces catwalks at fashion shows. There are two main markets for manufacturers: final consumer demand for clothing, footwear and household textiles that is often driven by changes in fashion; and industrial and professional applications for items such as technical textiles or specialised clothing (for example, protective wear and work wear).

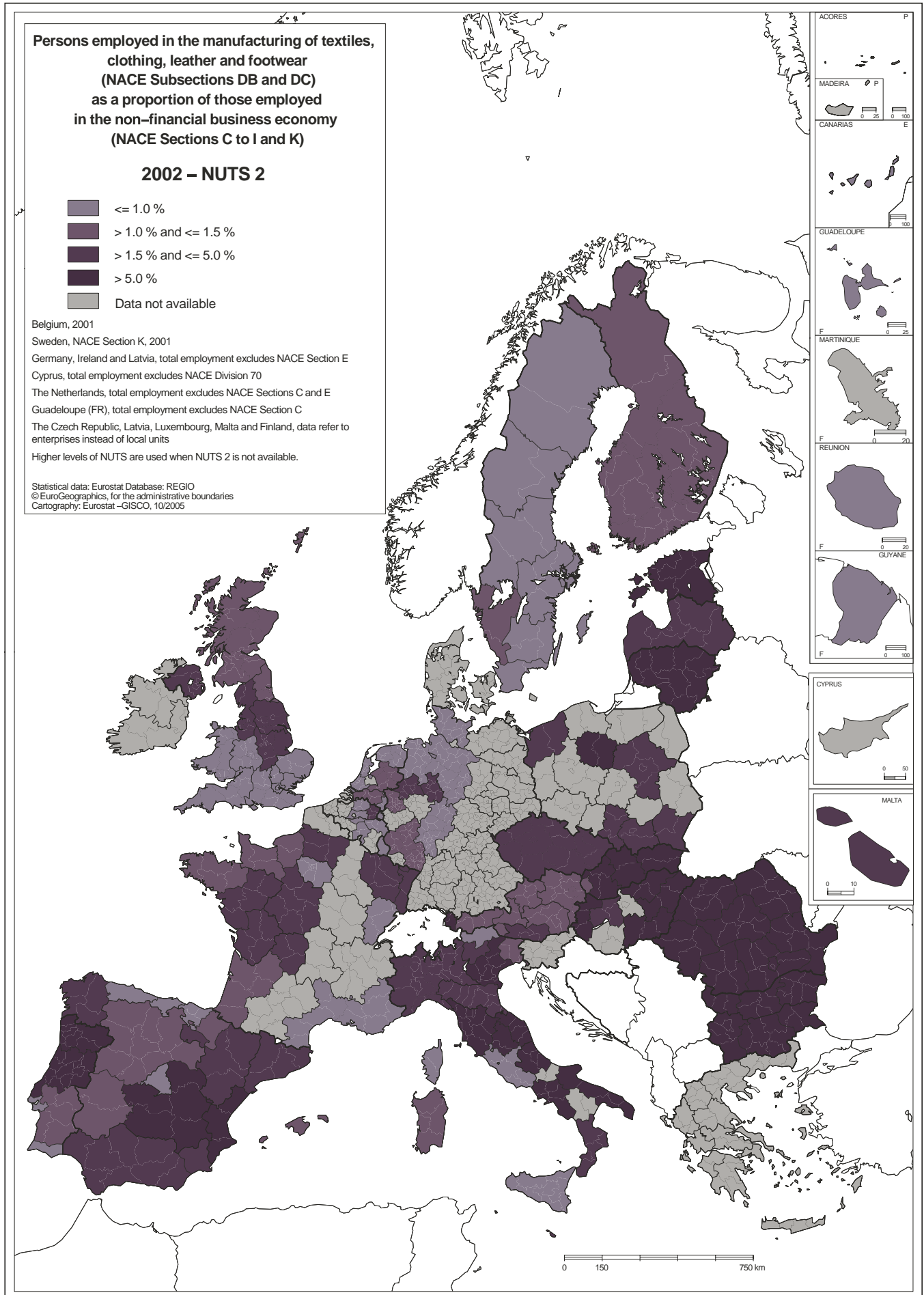
Aside from much publicised lower labour costs in competing countries, there are a number of other factors that may explain the relative and absolute decline of the EU's textile, clothing and leather manufacturing sector. Growing concentration among retail and clothing brands has resulted in a weaker negotiating position for the sector and has generally led to the price of textile, clothing and leather items being driven downwards (at least in relative terms). There has also been an increase in the level of quality of articles offered by non-Community manufacturers, such that EU-25 producers have often been left with niche markets at the top-end of the product range, for example, tailor-made clothing or hand-made shoes, or high-technology textiles that result from modern research and development. As a general rule, the mass production of simple fashion items and easily made textiles has moved outside of the EU, while EU-25 manufacturers who are capable of differentiating their products have defended their markets in areas such as designer carpets and rugs, designer clothing, protective work wear, or flame-retardant materials.

An alternative form of industrial organisation was adopted by many European manufacturers in response to competitive pressures during the 1990s. Design and marketing activities were maintained within the EU, while production facilities (especially for labour-intensive activities such as making up garments or spinning, weaving or dyeing fabrics and materials) were relocated to countries with lower labour costs, often in south-eastern Europe (for example, Bulgaria, Romania or Turkey). Outward processing trade (OPT) involves temporarily exporting goods out of one country to be processed and then subsequently re-importing them for further processing and/or sale, often under the label of an EU brand. Finished products re-imported under OPT are only liable to the customs duties corresponding to the non-EU added value. Changes in the trade regime for textiles and clothing in recent years (see Box 5.1 overleaf) have significantly diminished the attractiveness of OPT.

This chapter covers the manufacture of textiles, clothing, fur and leather goods, as defined by NACE Subsections DB and DC, hereafter referred to as textile, clothing and leather manufacturing. The processing stages of textile manufacture (as covered by NACE Groups 17.1 to 17.6) are dealt with in the first subchapter, while the manufacture of clothing including clothes that have been knitted or crocheted (NACE Division 18 and NACE group 17.7) is the subject of the second subchapter. The final subchapter concentrates on manufacture of leather and leather products (as covered by NACE Division 19), including that of footwear.

NACE

- 17: manufacture of textiles;
- 17.1: preparation and spinning of textile fibres;
- 17.2: textile weaving;
- 17.3: finishing of textiles;
- 17.4: manufacture of made-up textile articles, except apparel;
- 17.5: manufacture of other textiles;
- 17.6: manufacture of knitted and crocheted fabrics;
- 17.7: manufacture of knitted and crocheted articles;
- 18: manufacture of wearing apparel; dressing and dyeing of fur;
- 18.1: manufacture of leather clothes;
- 18.2: manufacture of other wearing apparel and accessories;
- 18.3: dressing and dyeing of fur; manufacture of articles of fur;
- 19: tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear;
- 19.1: tanning and dressing of leather;
- 19.2: manufacture of luggage, handbags and the like, saddlery and harness;
- 19.3: manufacture of footwear.



Box 5.1: end of the Agreement on Textiles and Clothing

Most of the world's trade is governed by rules adopted through the WTO (World Trade Organisation), of which GATT (the general agreement on tariffs and trade) is one of the most important. It is a multilateral treaty intended to help reduce trade barriers between signatory countries and to promote trade through tariff concessions. However, textiles are not included in GATT and before 1995 trade in textiles and clothing was organised on the basis of bilateral agreements that set quotas for exports from developing countries to industrial countries under a special trade regime outside of normal GATT rules. These quotas were negotiated bilaterally and were governed by the rules of the Multifibre Arrangement (MFA) which permitted selective quantitative restrictions when surges in imports of particular products caused, or threatened to cause, serious damage to textiles or clothing manufacturing in the importing country.

From 1 January 1995, international trade in textiles and clothing underwent a fundamental change, as a 10-year transitional programme was agreed under the auspices of the WTO, namely, the Agreement on Textiles and Clothing (ATC). The ATC was a transitional instrument to oversee the integration of textile and clothing products into normal GATT rules, by means of progressively removing quotas. As of 1 January 2005 textile and clothing products were opened up to free trade.

During the first few months of 2005 imports of certain textile and clothing products surged, and on 28 April the European Commission initiated safeguard investigations for nine key product categories. On 10 June 2005, the EU and China agreed a deal to manage the growth of Chinese imports of ten specific textile and clothing categories into the EU-25 through until the end of 2008. The agreement provided for gradual growth in Chinese textile exports, while giving the EU-25's textile and clothing industry time to adjust. It was agreed for the following categories: t-shirts, pullovers, men's trousers, blouses, dresses, brassieres, flax yarn, cotton fabrics, bed linen, and table and kitchen linen.

However, the summer of 2005 was marked by renewed concerns over the rapid increase of imports into the EU (particularly with respect to pullovers and trousers), as the level of imports from China rose above the restraints previously agreed. As of 13 July 2005, specific textile and clothing goods imported from China were blocked upon their entry into the EU and import licenses were no longer granted. The situation was resolved on 7 September 2005, when the Member States endorsed the outcome of negotiations a few days earlier and as a result Commission Regulation (EC) No 1478/2005 of 12 September 2005 amended the annexes V, VII and VIII of a 1993 Council Regulation on common rules for imports of certain textile products, providing for import levels to be modified and allowing for the immediate import of all the blocked quantities. For its part, China committed not to issue any further export licenses for those of the ten product categories for which the agreed quantities for 2005 had already been exhausted.

Table 5.1
Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Textiles, clothing and leather products	72 767	4.1	3 079	8.6
Textiles	31 794	1.8	1 056	2.9
Clothing	28 084	1.6	1 475	4.1
Leather	12 870	0.7	548	1.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

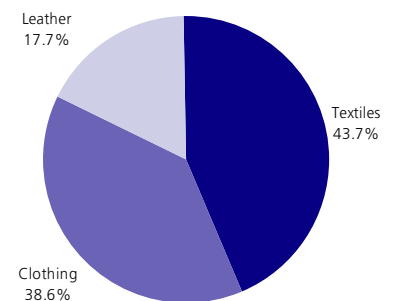
Textile, clothing and leather manufacturing (NACE Subsections DB and DC) generated EUR 72.8 billion of value added in the EU-25 in 2002. This figure was equivalent to a 4.1 % share of industrial (NACE Sections C to E) value added. There were just under 3.1 million persons employed within EU-25's textile, clothing and leather manufacturing sector in 2002, which corresponded to an 8.6 % share of the industrial workforce, more than double the value added share.

Textile manufacturing (as defined for the purpose of this publication as NACE Groups 17.1 to 17.6) was the largest of the three activities covered by the subchapters that follow, accounting for 43.7 % of EU-25 value added within the whole of the textile, clothing and leather manufacturing sector in 2002. The manufacture of clothing (as defined by NACE

Group 17.7 and Division 18) was relatively similar in terms of its size, accounting for a 38.6 % share of the sector's value added, while leather manufacturing was considerably smaller (17.7 %).

The labour intensive nature of the clothing sector (in particular) means that these proportions changed considerably when looking at the weight of each subchapter in the total number of persons employed. Clothing manufacturing accounted for almost half (47.9 %) of those employed, while textile manufacturing had a 34.3 % share, and leather manufacturing the remaining 17.8 % (an almost identical share to that recorded for value added).

Figure 5.1
Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Italy was by far the leading textile, clothing and leather manufacturer in the EU-25 in 2002, with EUR 24.4 billion of value added, which was slightly more than one third of the EU-25 total. France, Germany, the United Kingdom and Spain all generated between EUR 8.8 billion and EUR 6.7 billion of value added (equivalent to shares of between 12.1 % and 9.2 % of EU-25 value added), while Portugal accounted for 4.6 % of the EU-25 total. Textile, clothing and leather manufacturing accounted for more than one tenth of industrial value added in 2002 in the southern Member States of Portugal, Malta and Italy, and the Baltic States of Estonia and Lithuania (compared with an EU-25 average of 4.1 %) ⁽¹⁾. The manufacture of textiles, clothing and leather was also relatively important to the economies of the Candidate countries of Bulgaria, Romania and Turkey.

The index of production provides clear evidence of the downturn in the fortunes of the EU-25's textile, clothing and leather manufacturing activities, as output fell on average by 3.3 % per annum during the period 1993 to 2004. The pace of decline accelerated over the period considered, with the index of production falling by at least 5 % per annum during the last three years for which data are available.

As evidence of the price pressures faced by textile, clothing and leather manufacturers, there was no change in the level of domestic output prices in 2004 (while prices for total industry rose by 2.8 %). During the last three years for which data are available, EU-25 output prices for textile, clothing and leather manufacturing did not rise by more than 1 % per annum.

Although some textile, clothing and leather manufacturers have set-up their own distribution networks, vertically integrating into wholesale and/or retail activities, this manufacturing sector is largely dominated by SMEs (with less than 250 persons employed). The dominance of SMEs in this sector can be shown by the fact that they employed 2.4 million persons in the EU-25 in 2001 (74.6 % of the total), while generating EUR 55.0 billion of value added (71.6 % of the total).

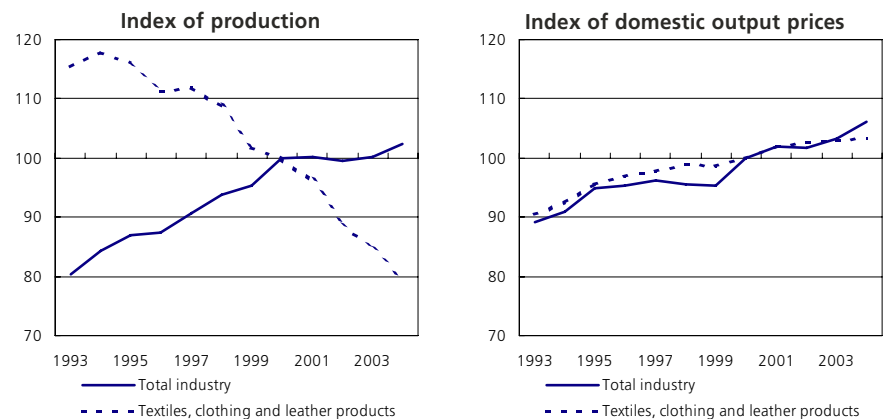
⁽¹⁾ Belgium, Ireland, Cyprus and Austria, 2001; Denmark, Greece, Latvia and Slovenia, not available.

Table 5.2 Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Italy (33.5)	Portugal (373.7)	Italy (25.3)	Portugal (374.3)
2	France (12.1)	Lithuania (308.6)	Poland (10.2)	Lithuania (262.8)
3	Germany (11.6)	Estonia (294.9)	Portugal (9.9)	Estonia (224.0)

(1) Belgium, Ireland, Cyprus and Austria, 2001; Denmark, Greece, Latvia and Slovenia, not available.
 (2) Belgium, Cyprus and Austria, 2001; Denmark, Greece, Ireland, Latvia and Slovenia, not available.
 (3) Ireland, Cyprus and Austria, 2001; Denmark, Greece and Slovenia, not available.
 (4) Cyprus and Austria, 2001; Denmark, Greece, Ireland, Latvia and Slovenia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 5.2 Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC) Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

EMPLOYMENT CHARACTERISTICS

The most distinguishing feature of the textile, clothing and leather manufacturing sector in terms of employment characteristics is that its three NACE divisions were the only ones in the EU-25's industrial economy to report a higher proportion of women in their workforces. This characteristic was particularly strong in the case of the manufacture of clothing, excluding knitted and crocheted articles (NACE Division 18), where 79.8 % of those employed in this activity in 2004 were female. The gender balance was also in favour of women for the manufacture of textiles, including knitted and crocheted articles (NACE Division 17) and the manufacture of leather and leather products (NACE Division 19), as women accounted for 52.9 % of the total number of persons employed in both these activities.

Whereas a relatively high proportion of women in the workforce is often associated with a high propensity to employ on a part-time basis, some 90.2 % of those employed in the EU-25's textile, clothing and leather manufacturing sector worked on a full-time basis in 2004, which was only slightly below the industrial average of 92.7 %.

Table 5.3

Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC)
Labour force characteristics, 2004

	Female		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (industry=100) (1)	Proportion of those employed (%)	Index (industry=100)	< 25 years (2)	25-49 years (3)	50+ years (4)
EU-25	65.0	224.3	90.2	97.3	8.5	71.0	20.6
BE	48.4	204.4	82.7	92.4	5.9	74.0	20.1
CZ	77.2	211.3	94.6	97.2	8.3	64.1	27.6
DK	53.6	180.3	92.8	101.8	:	75.2	32.2
DE	57.2	206.9	79.9	89.6	7.0	62.5	30.5
EE	87.2	193.3	97.1	99.4	:	63.8	32.0
EL	53.3	199.1	95.2	96.9	5.4	68.8	25.9
ES	58.2	237.0	93.4	96.2	9.6	69.5	20.9
FR	58.7	206.1	90.5	96.1	5.0	72.5	24.9
IE	56.5	184.9	78.4	83.8	:	69.1	22.5
IT	61.0	211.3	89.3	95.1	8.6	74.7	16.6
CY	70.6	206.9	80.7	85.1	:	59.1	38.7
LV	84.0	203.3	93.6	98.3	16.1	55.3	28.6
LT	82.3	182.5	96.2	99.7	8.5	74.1	21.0
LU	:	:	96.6	103.5	:	:	:
HU	79.3	204.2	92.7	95.7	7.0	73.2	19.7
MT	79.6	326.5	97.1	100.3	45.2	43.3	:
NL	42.1	190.6	72.0	97.3	:	68.0	24.6
AT	62.8	237.3	80.5	90.2	14.4	58.3	27.3
PL	78.4	242.2	91.7	96.0	8.3	79.4	12.3
PT	68.5	167.0	96.3	98.8	15.3	70.8	14.0
SI	77.3	211.4	96.7	100.9	6.1	78.3	15.6
SK	81.9	215.2	97.1	98.5	11.6	75.5	12.9
FI	70.1	251.0	92.3	98.2	:	56.8	39.2
SE	48.6	192.0	82.6	90.4	:	55.1	39.2
UK	53.7	212.7	80.0	88.1	6.1	59.9	34.0

(1) Malta, 2003.

(2) France, Lithuania and Malta, 2003.

(3) Malta, 2003.

(4) Ireland, 2003; Denmark, 2001.

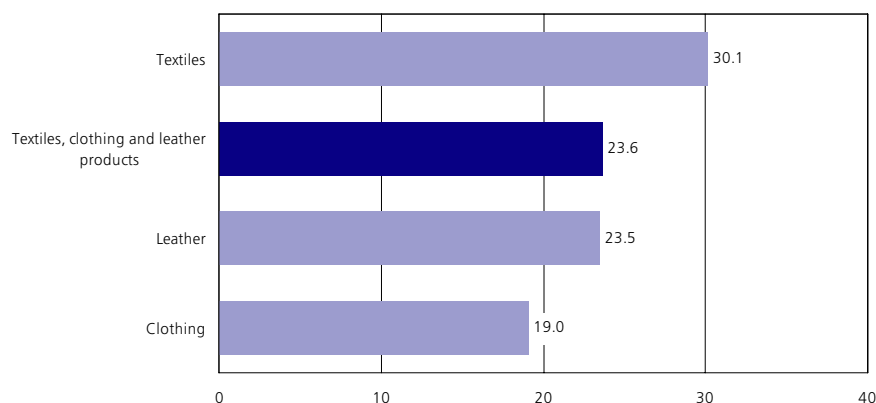
Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

The labour intensive nature of textile, clothing and leather manufacturing was borne out as persons employed in this sector in the EU-25 generated an average of EUR 23 600 of value added each in 2002, some EUR 25 400 below the average figure for total industry. This low level of productivity was spread across each of the three subsectors, ranging from a high of EUR 30 100 per person employed for textile manufacturing (NACE Groups 17.1 to 17.6), through EUR 23 500 per person employed for leather manufacturing (NACE Division 19), to a low of EUR 19 000 per person employed for clothing manufacturing (NACE Group 17.7 and Division 18). Apparent labour productivity for the textile, clothing and leather manufacturing sector was below national industrial averages in each of the Member States ⁽²⁾, except Luxembourg, where it was 80.4 % higher.

⁽²⁾ Belgium, Ireland, Cyprus and Austria, 2001; Denmark, Greece, Latvia and Slovenia, not available.

Figure 5.3

Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC)
Apparent labour productivity, EU-25, 2002 (EUR thousand)


Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.4

Manufacture of textiles, clothing and leather products (NACE Subsections DB and DC)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (127.1)	Luxembourg (44.1)	Luxembourg (288.4)	Luxembourg (20.8)
2	Belgium (44.0)	Netherlands (33.6)	Malta (170.2)	Malta (17.6)
3	Netherlands (41.6)	Sweden (32.0)	United Kingdom (149.7)	United Kingdom (13.0)

(1) Belgium, Ireland, Cyprus and Austria, 2001; Denmark, Greece, Latvia and Slovenia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.5

Textiles and textile products; leather and leather products (CPA Subsections DB and DC)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Textiles, clothing and leather products	45 701	5.1	5.8	86 603	9.1	9.5	-40 902	52.8
Textiles	17 963	2.0	2.4	16 696	1.8	2.1	1 267	107.6
Clothing	15 828	1.8	2.0	52 076	5.5	5.6	-36 248	30.4
Leather	11 894	1.3	1.5	17 828	1.9	1.8	-5 935	66.7

Source: Eurostat, Comext

EXTERNAL TRADE

The EU-25 exported textile, clothing and leather goods (CPA Subsections DB and DC) to non-Community countries to the value of EUR 45.7 billion in 2004. In contrast, the value of imports was EUR 86.6 billion, resulting in a trade deficit of EUR 40.9 billion. The deficit was almost entirely accounted for by clothing (CPA Group 17.7 and Division 18), as the EU-25 registered a EUR 36.2 billion deficit for these products in 2004. The deficit for leather products (CPA Division 19) was less than one sixth of the size recorded for clothing, at EUR 5.9 billion, while the EU-25 ran a trade surplus of EUR 1.3 billion for textiles (CPA Groups 17.1 to 17.6).

Leaving aside the ten key categories of textile and clothing products for which an agreement was reached on import levels for the period 2005 to 2007, EU-25 imports of all other, fully liberalised textile and clothing products was valued at EUR 17.6 billion during the period January to May 2005, compared with EUR 19.1 billion for the period January to May 2004. Note the reduction in value terms occurred despite an increase in the volume of imports, as a result of falling average unit prices. An analysis of the recent change in origin of EU-25 imports shows that the highest proportion of liberalised textile and clothing imports in the first five months of 2004 (in value terms) was supplied by Turkey (17.4 %), followed by China (11.2 %), while Bangladesh, Romania and India all supplied between 6 %

Table 5.6

Imports of fully liberalised textile and clothing products, EU-25 (EUR million)

	January-May 2004		January-May 2005	
	Value	(% of total)	Value	(% of total)
World	19 097	100.0	17 577	100.0
Turkey	3 315	17.4	3 408	19.4
China	2 148	11.2	3 872	22.0
Bangladesh	1 386	7.3	1 281	7.3
Romania	1 295	6.8	1 154	6.6
India	1 223	6.4	1 353	7.7
Tunisia	908	4.8	887	5.0
Morocco	877	4.6	751	4.3
Hong Kong	703	3.7	314	1.8
Pakistan	694	3.6	572	3.3
Indonesia	518	2.7	410	2.3
Share of top 10 partners	13 067	68.4	14 002	79.7

Source: Eurostat, Comext

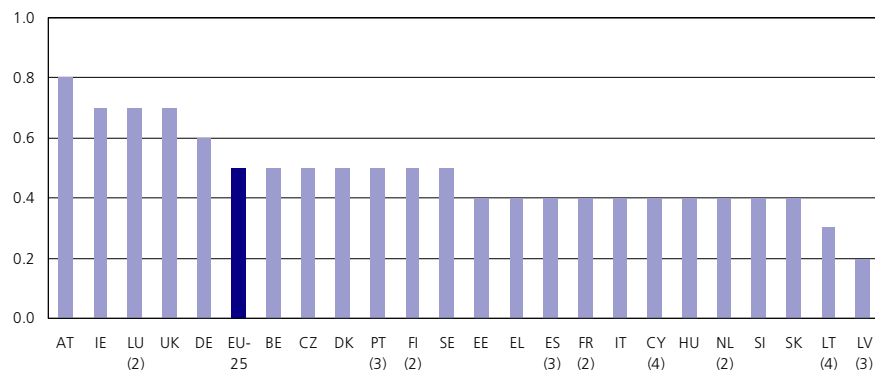
and 7 % of EU-25 imports. Data for the first five months of 2005 shows that there was a rapid increase in the proportion of imports from China, nearly doubling to 22.0 %. The value of Chinese imports of fully liberalised textile and clothing products rose from EUR 2.1 billion in the first five months of 2004 to EUR 3.9 billion in the same period one year later (an increase of more than 80 % in current prices). Turkey's share rose by 2 percentage points, while the next largest increase was recorded for India (+1.3 percentage points) - see Table 5.6.

5.1: TEXTILES

This subchapter deals with the processing of textiles (hereafter referred to as textile manufacturing) and includes processes such as spinning, weaving and the finishing of products (other than clothes, which are covered in the next subchapter), as classified within NACE Groups 17.1 to 17.6.

The textile manufacturing sector comprises the treatment of raw materials, in other words: the preparation or production of various textile fibres (be they man-made or natural); the manufacture of yarns through industrial processes such as spinning; knitting or weaving of fabrics; as well as finishing activities, that include bleaching, printing, dyeing, coating, or plasticising textiles so that they have the technical properties required by downstream manufacturers or correspond better to the perceived requirements of final consumers. The textiles sector also includes the transformation of textile materials into end products, for example, carpets or rugs, bed or table linen, towels, or curtains, as well as a range of technical textiles for industrial applications. Expenditure on textiles was equal to 0.5 % of total household expenditure in 2003 in the EU-25 (see Figure 5.4).

Figure 5.4 Final consumption expenditure on household textiles (COICOP 05.2), 2004 (% of total consumption expenditure) (1)



(1) Malta and Poland, not available.

(2) 2003.

(3) 2002.

(4) 2001.

Source: Eurostat, National Accounts, Breakdowns (main aggregates and employment by industry, investment by product and consumption by purpose)

Table 5.7

Manufacture of textiles (NACE Groups 17.1 to 17.6)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Textiles	31 794	1.8	1 056	2.9
Preparation and spinning of textile fibres (1)	4 455	0.3	173	0.5
Textile weaving	7 149	0.4	240	0.7
Finishing of textiles	4 307	0.2	128	0.4
Manufacture of made-up textile articles, except apparel	5 290	0.3	225	0.6
Manufacture of other textiles	8 909	0.5	246	0.7
Manufacture of knitted and crocheted fabrics	1 684	0.1	:	:

(1) Persons employed and share in industrial employment, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The EU-25's textile manufacturing sector (NACE Groups 17.1 to 17.6) generated EUR 31.8 billion of value added in 2002. Among the six NACE groups that make-up this subchapter the largest activity was the manufacture of other textiles (NACE Group 17.5) which includes the manufacture of carpets and rugs. This subsector accounted for 28.0 % of EU-25 value added within the textile manufacturing sector in 2002. The next largest subsector was textile weaving (NACE Group 17.2), with a 22.5 % share. The remaining activities accounted for between 14 % and 17 % of the textile manufacturing

sector's value added, except for the manufacture of knitted and crocheted fabrics (NACE Group 17.6), which was by far the smallest subsector (5.3 % of sectoral value added).

Italy was the largest producer of textiles in 2002, with EUR 9.1 billion of value added, equating to 28.5 % of the EU-25 total. The level of output in Italy was more than double that of Germany (the second largest producer), which accounted for 14.1 % of the EU-25's value added. The Italian textile manufacturing sector contributed 2.2 times as much to industrial value added than the average for the

EU-25. Other Member States that were relatively specialised in textile manufacturing included the Baltic States (Latvia, 2001), Belgium (2001), Luxembourg, Malta, Portugal, and Slovenia⁽³⁾.

⁽³⁾ Belgium and Latvia, 2001; Greece, not available.

The performance of the various textile manufacturing activities generally followed a downward path over the last decade or so, with EU-25 output declining between 1993 and 2004 for each of the six NACE groups covered in this subchapter. There were however large differences in the pace at which output declined, as there was almost no change in the level of EU-25 production for other textile products (NACE Group 17.5), while losses averaging around 3 % per annum were recorded for textile preparation and spinning (NACE Group 17.1) and textile finishing (NACE Group 17.3). Other textile products was the only one of the six NACE groups not to report an accelerating rate of decline in output from 2000 onwards.

Among the Member States a similar pattern was observed with more marked losses from 2000 onwards, as the production index for the manufacture of textiles including knitted and crocheted articles (NACE Division 17) fell, on average, by more than 4.0 % per annum in Denmark, Greece, Spain, France, Ireland, Italy, Hungary and the United Kingdom between 2000 and 2004 ⁽⁴⁾.

While the textile manufacturing sector is dominated by SMEs (employing less than 250 persons), it is interesting to note that the average size of enterprises (as measured by value added per enterprise) was somewhat larger for the two subsectors that had more stable levels of output and significant trade surpluses (see below), namely, textile weaving (NACE Group 17.2) and the manufacture of other textiles (NACE Group 17.5). Nevertheless, SMEs generated a majority of value added for both of these activities in 2001, some 59.2 % for weaving and 64.7 % for other textiles. The importance of SMEs in terms of their contribution to value added was highest for textile finishing (NACE Group 17.3) where they accounted for 82.9 % of value added.

In 2004 some 52.9 % of the EU-25's textiles including knitted and crocheted articles (NACE Division 17) workforce were women. The gender balance was particularly in favour of women among some of the Member States that joined the EU in 2004, as the female proportion of the workforce rose to above 65 % in the Baltic States, the Czech Republic, Slovenia and Slovakia ⁽⁵⁾.

⁽⁴⁾ Cyprus, Malta and Slovakia, not available.

⁽⁵⁾ Denmark, Ireland, Cyprus, Luxembourg, Malta and the Netherlands, not available.

Table 5.8

Manufacture of textiles (NACE Groups 17.1 to 17.6)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Italy (28.5)	Luxembourg (374.0)	Italy (22.9)	Portugal (282.8)
2	Germany (14.1)	Estonia (318.7)	Germany (10.8)	Estonia (237.7)
3	United Kingdom (12.6)	Portugal (290.4)	United Kingdom (10.1)	Belgium (196.5)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

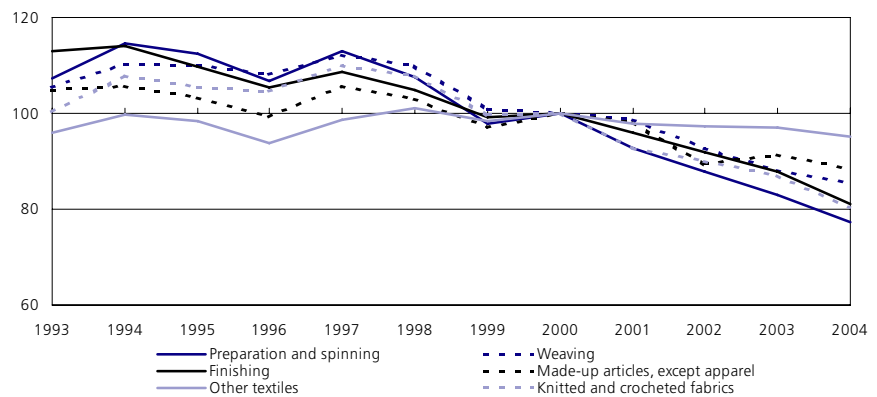
(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 5.5

Manufacture of textiles (NACE Groups 17.1 to 17.6)

Production index, EU-25 (2000=100)

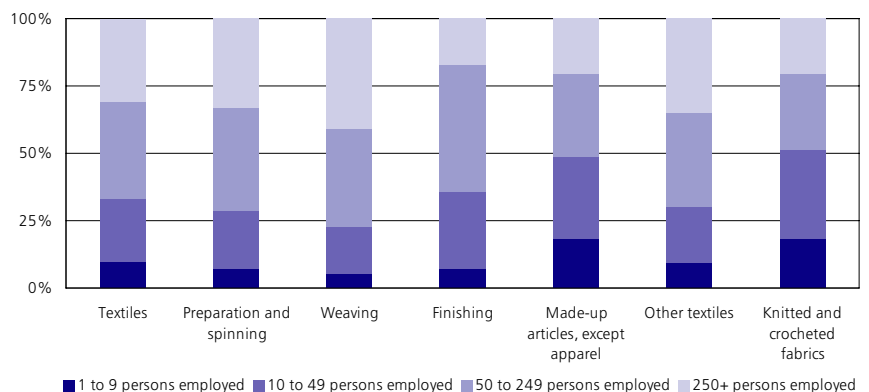


Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 5.6

Manufacture of textiles (NACE Groups 17.1 to 17.6)

Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 5.9

Manufacture of textiles (including knitted and crocheted articles) (NACE Division 17)

Labour force characteristics, 2004

	Female		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (industry=100) (1)	Proportion of those employed (%)	Index (industry=100)	< 25 years (2)	25-49 years	50+ years (3)
EU-25	52.9	182.3	91.1	98.3	7.6	69.8	22.6
BE	38.0	160.6	84.8	94.8	10.1	74.7	17.9
CZ	72.5	198.6	95.2	97.8	7.7	60.8	31.5
DK	51.1	166.3	90.9	99.8	:	69.2	:
DE	50.5	182.6	83.3	93.4	7.3	63.5	29.1
EE	83.3	184.7	96.8	99.0	:	66.3	:
EL	38.1	142.3	97.4	99.1	:	69.7	23.2
ES	40.3	164.1	95.9	98.8	7.8	67.4	24.9
FR	47.8	167.8	92.6	98.3	6.9	75.2	21.5
IE	41.3	142.1	82.9	88.6	:	69.9	:
IT	53.4	185.0	90.4	96.3	5.9	75.3	18.8
CY	:	:	:	:	:	:	:
LV	69.6	168.6	93.6	98.3	:	50.4	:
LT	65.5	145.4	100.0	103.6	:	74.4	24.9
LU	:	:	:	:	:	:	:
HU	59.2	152.5	87.3	90.2	9.6	74.3	21.4
MT	:	:	:	:	:	:	:
NL	37.7	167.9	78.5	106.0	:	68.6	24.8
AT	46.4	175.0	87.9	98.6	14.4	57.7	32.7
PL	59.2	182.8	97.6	102.2	11.6	81.4	7.0
PT	55.6	135.6	95.7	98.1	14.3	69.6	16.0
SI	74.5	203.8	97.9	102.2	10.4	74.9	14.6
SK	67.7	177.8	98.2	99.5	18.5	70.0	19.4
FI	52.8	189.1	94.3	100.4	:	67.1	51.9
SE	38.6	152.4	82.1	89.9	:	48.9	44.4
UK	48.3	191.4	83.5	91.9	9.1	57.4	36.5

(1) Ireland and the Netherlands, 2003; Denmark, 2002.

(2) Belgium, France, Hungary, Austria and Slovakia, 2003; the United Kingdom, 2002.

(3) The Netherlands and Finland, 2003; Lithuania, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for textile manufacturing was EUR 30 100 per person employed in the EU-25 in 2002. Among the six NACE groups that make-up this subchapter the highest level of productivity was recorded for the manufacture of other textiles, where on average each person employed generated EUR 36 300 of value added in 2002. The lowest level of productivity (by this measure) was EUR 23 500 per person employed for the manufacture of made-up articles, except apparel (NACE Group 17.4) ⁽⁶⁾.

Average personnel costs per employee were generally well below national industrial averages across the textile manufacturing sector. The only exceptions were Latvia (2001), Lithuania and Luxembourg, where personnel costs were 5.2 %, 2.1 % and 0.4 % respectively above the national industrial average in 2002 ⁽⁷⁾.

⁽⁷⁾ Belgium and Latvia, 2001; Greece and Cyprus, not available.

⁽⁶⁾ Preparation and spinning of textile fibres (NACE Group 17.1) and the manufacture of knitted and crocheted fabrics (NACE Group 17.6), 2001.

Table 5.10

Textile yarn and thread; textile fabrics; made-up textile articles, except apparel; other textiles; knitted or crocheted fabrics (CPA Groups 17.1, 17.2, 17.3, 17.4, 17.5 and 17.6)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Textiles	17 963	2.0	2.4	16 696	1.8	2.1	1 267	107.6
Yarn and thread	1 936	0.2	0.2	2 732	0.3	0.4	-796	70.9
Fabrics	7 916	0.9	1.2	4 549	0.5	0.7	3 367	174.0
Made-up articles, except apparel	1 640	0.2	0.2	5 718	0.6	0.5	-4 078	28.7
Other textiles	4 979	0.6	0.6	3 080	0.3	0.5	1 899	161.7
Knitted or crocheted fabrics	1 491	0.2	0.2	618	0.1	0.1	873	241.3

Source: Eurostat, Comext

EXTERNAL TRADE

The EU-25 exported to non-Community countries EUR 18.0 billion of textile products (CPA Groups 17.1, 17.2 and 17.4 to 17.6) in 2004, some EUR 1.3 billion more than its imports in the same year. The largest share (44.1 %) of textile exports was accounted for by fabrics (CPA Group 17.2), while the next most important export category was other textiles (CPA Group 17.5) with 27.7 %. These two categories also accounted for the largest trade surpluses, with fabrics recording an EU-25 trade surplus of EUR 3.4 billion in 2004, and other textiles a surplus of EUR 1.9 billion; the largest deficit (EUR 4.1 billion) was for made-up articles, except apparel (CPA Group 17.4).

Italy, Portugal and the Baltic States were relatively specialised in exporting textiles, as the proportion of industrial exports accounted for by textiles was more than double the EU-25 average in 2004. Italy also ran the largest trade surplus for textile products, some EUR 5.3 billion in 2004. Belgium (EUR 2.8 billion) and Germany (EUR 1.1 billion) were the only other Member States to record a surplus of more than EUR 1 billion, while the largest trade deficits for textiles were registered in Poland (EUR 1.6 billion) and the United Kingdom (EUR 2.5 billion).

The Shanghai Agreement made in June 2005 specified quotas of Chinese imports for four textile products for the period 2005 to 2007. Table 5.11 presents the increases in Chinese imports into the EU-25 (relative to their level of 2004) that were agreed for 2005.

Table 5.11

EU-25 import levels for selected textile imports from China, 2005 (% increase relative to import levels for 2004)

Table and kitchen linen	154
Flax or ramie yarn	167
Bed linen	177
Cotton fabrics	188

Source: European Commission, Directorate-General Trade

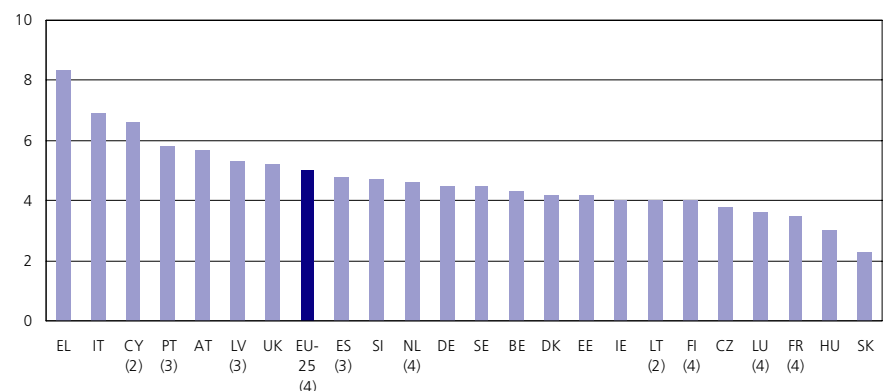
5.2: CLOTHING, INCLUDING KNITTED ARTICLES

This subchapter contains information on various clothing manufacturing activities (hereafter referred to as clothing manufacturing), as defined by NACE Group 17.7 (the manufacture of knitted and crocheted articles) and NACE Division 18 (the manufacture of leather clothes, work wear, outerwear, underwear, and articles of fur).

The market for clothes within the EU-25 is mature, while some people may have an insatiable demand for new clothing driven by a keen interest in fashion, others purchase just a few items each year treating clothes more as a necessity rather than a luxury item. Falling (relative and absolute) prices have led to a reduction in the importance of clothing expenditure as a proportion of total household expenditure. Clothing accounted for 5.0 % of total household expenditure in the EU-25 in 2003 - see Figure 5.7.

Figure 5.7

Final consumption expenditure on clothing (COICOP 03.1), 2004 (% of total consumption expenditure) (1)



(1) Malta and Poland, not available.

(2) 2001.

(3) 2002.

(4) 2003.

Source: Eurostat, National Accounts, Breakdowns (main aggregates and employment by industry, investment by product and consumption by purpose)

EU-25 clothing manufacturers have tried to counter competition by using an increasing share of technology, substituting labour by equipment to cut and sew materials, as well as introducing computer-aided design and simulation. Similar technology is also being adapted to allow customers to view combinations of clothing on a PC or similar screen. While the potential of such systems has yet to be fully commercialised, it is likely to result in more on-line sales and direct contact between clothing manufacturers and their customers.

STRUCTURAL PROFILE

There was EUR 28.1 billion of value added generated in the EU-25's clothing manufacturing sector (NACE Group 17.7 and Division 18) in 2002. This equated to 38.6 % of the EU-25's value added for textile, clothing and leather manufacturing (NACE Subsections DB and DC). The largest activity among the four NACE Groups that make-up this subchapter was the manufacture of other wearing apparel and accessories (NACE Group 18.2) which accounted for as much as 83.2 % of sectoral value added in 2001, while the manufacture of knitted and crocheted articles (NACE Group 17.7) accounted for 14.2 % in 2002. The two remaining activities of dressing and dyeing of fur; manufacture of articles of fur (NACE Group 18.3) and the manufacture of leather clothes (NACE Group 18.1) were relatively small, both accounting for just over 1 % of sectoral value added.

Italy was the largest clothing manufacturer among the Member States in 2002, with value added of EUR 9.3 billion, equating to one third (33.2 %) of the EU-25 total. The next highest share was recorded by France with 13.6 %, while Germany, Spain and the United Kingdom all registered shares around 10 %. In relative terms, clothing manufacturing contributed more than twice as much to industrial value added than the EU-25 average in the Baltic States, Italy, Cyprus, Malta, Portugal and Slovenia ⁽⁸⁾.

EU-25 production indices showed a generally downward trend for the three branches where data are available between 1993 and 2004 ⁽⁹⁾. For knitted and crocheted articles the decline in EU-25 production was continuous and accelerated from 2000 onwards, with average losses of more than 8 % per annum between 2000 and 2004. A similar picture was observed for the largest activity, the manufacture of other wearing apparel and accessories, where after rising slightly in 1994, the EU-25 index of production fell in subsequent years, with average losses of more than 7 % per annum between

⁽⁸⁾ Belgium and Latvia, 2001; Greece, not available.

⁽⁹⁾ The manufacture of leather clothes (NACE Group 18.1), not available.

Table 5.12
Manufacture of clothing (NACE Group 17.7 and Division 18)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Clothing	28 084	1.6	1 475	4.1
Knitted and crocheted articles	3 983	0.2	188	0.5
Leather clothes (1)	375	0.0	19	0.1
Other wearing apparel and accessories (1)	24 629	1.4	1 265	3.5
Fur and articles of fur	386	0.0	20	0.1

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.13
Manufacture of clothing (NACE Group 17.7 and Division 18)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Italy (33.2)	Lithuania (536.2)	Italy (23.0)	Portugal (419.1)
2	France (13.6)	Portugal (443.0)	Poland (13.7)	Lithuania (398.4)
3	United Kingdom (10.7)	Malta (408.0)	Portugal (11.1)	Estonia (255.0)

(1) Belgium and Latvia, 2001; Greece, not available.

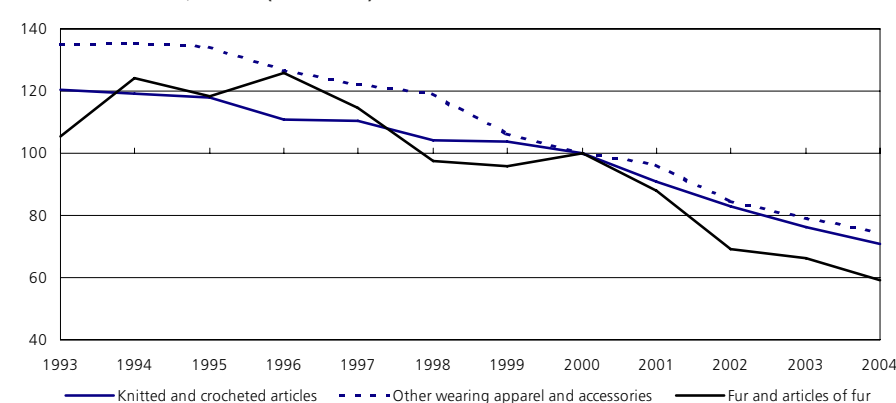
(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 5.8
Manufacture of clothing (NACE Group 17.7 and Division 18)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

2000 and 2004. Finally, for the relatively small activity of the dressing and dyeing of fur; manufacture of articles of fur, EU-25 production peaked in 1996, after which it fell at a very rapid pace (other than a temporary reprieve in 2000), with average losses of more than 12 % per annum between 2000 and 2004.

The Baltic States were the only three Member States that reported a higher level of output for the manufacture of clothing, excluding knitted and crocheted articles (NACE Division 18) in

2004 than they had recorded in 2000 ⁽¹⁰⁾. Otherwise, reductions were often considerable, with clothing output more than halved in France between 2000 and 2004, and losses of more than 30 % recorded for Germany, Spain and the United Kingdom. In contrast, there was a relatively modest decline in the overall level of output in Italy, where production fell by 9.2 % between 2000 and 2004.

⁽¹⁰⁾ Luxembourg and Malta, not available.

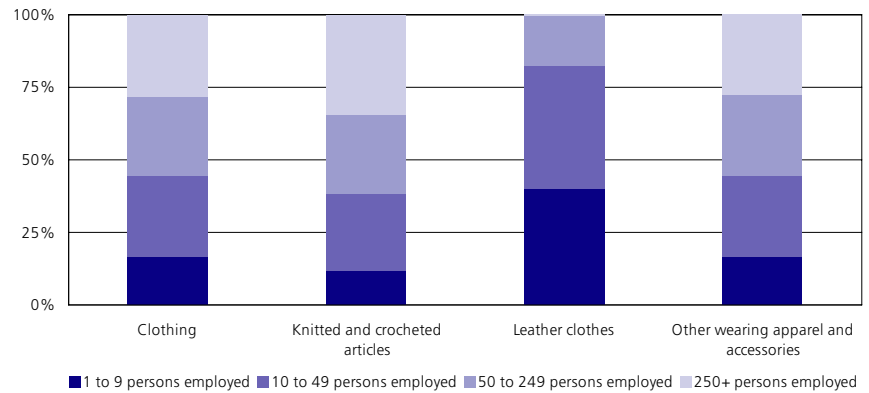
SMEs (employing less than 250 persons) accounted for 72.0 % of the EU-25's value added for clothing manufacturing (NACE Group 17.7 and Division 18) in 2001. The relative importance of SMEs (as measured by their share of value added) was much higher for the manufacture of leather clothes where they accounted for 99.5 % of value added, a share that fell to 65.6 % for knitted and crocheted articles.

The manufacture of clothing excluding knitted and crocheted articles (NACE Division 18) reported the highest propensity to employ women among the industrial NACE divisions, as almost eight out of ten of those employed in the EU-25 in 2004 were female. The share of women in the workforce rose to around 90 % in the Czech Republic, Latvia, Lithuania, Hungary and Slovakia, and to upwards of 95 % in Estonia and Finland ⁽¹⁾. The lowest proportion of women in the clothing workforce was recorded in Denmark (58.6 %).

⁽¹⁾ Luxembourg, not available; Malta and the Netherlands, 2003.

Figure 5.9

Manufacture of clothing (NACE Group 17.7 and Division 18)
Share of value added by enterprise size class, EU-25, 2001 (1)



(1) Fur and articles of fur (NACE Group 18.3), not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 5.14

Manufacture of clothing (excluding knitted and crocheted articles) (NACE Division 18)
Labour force characteristics, 2004

	Female		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (industry=100) (1)	Proportion of those employed (%) (1)	Index (industry=100)	< 25 years (2)	25-49 years	50+ years (3)
EU-25	79.8	275.2	87.9	94.9	8.3	71.8	19.9
BE	70.7	299.1	75.4	84.2	:	70.6	26.5
CZ	90.1	246.6	92.1	94.7	7.8	72.5	19.7
DK	58.6	197.0	100.0	109.7	:	83.2	:
DE	67.1	242.5	74.9	84.0	6.7	60.9	32.4
EE	95.3	211.3	96.6	98.8	:	66.7	:
EL	63.7	238.1	94.5	96.2	5.3	68.7	26.0
ES	76.2	310.2	91.5	94.2	7.1	70.5	22.4
FR	71.7	251.5	85.5	90.8	6.0	70.7	27.2
IE	63.2	207.0	74.8	80.0	:	65.1	:
IT	79.0	273.8	85.4	90.9	11.6	73.1	15.3
CY	78.6	230.3	74.6	78.8	:	51.6	45.6
LV	90.2	218.4	93.5	98.2	14.9	57.4	28.5
LT	89.4	198.4	95.1	98.6	20.9	73.5	20.5
LU	:	:	:	:	:	:	:
HU	89.4	230.3	94.2	97.2	8.4	74.1	17.6
MT	84.1	344.8	100.0	103.3	56.8	:	:
NL (4)	64.7	288.0	61.5	82.1	:	69.2	:
AT	77.9	293.9	70.0	78.5	:	55.8	25.7
PL	86.1	266.2	88.8	93.0	6.5	79.1	14.4
PT	86.2	210.0	95.9	98.4	13.8	72.6	13.6
SI	85.2	232.9	96.3	100.4	7.8	80.4	16.8
SK	91.2	239.5	96.0	97.3	13.0	75.5	11.4
FI	96.0	343.8	87.3	92.9	:	40.7	56.9
SE	72.9	288.2	83.8	91.8	:	70.0	47.6
UK	65.5	259.5	74.2	81.6	:	65.2	29.6

(1) Malta, 2003. (2) Latvia, 2003; France, Malta and Slovenia, 2002; Lithuania, 2001. (3) Austria, 2003; Sweden, 2001. (4) 2003.

Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

The EU-25's clothing manufacturing sector (NACE Group 17.7 and Division 18) recorded one of the lowest levels of apparent labour productivity within the industrial economy, as each person employed generated an average of EUR 19 000 of value added; more than 60 % below the industrial average. A similar pattern was repeated across the Member States ⁽¹²⁾, with more than half of them reporting that apparent labour productivity for clothing manufacturing was less than 50 % of their national industrial average. Denmark, Germany, France, Italy and Malta were the only Member States where apparent labour productivity was between 30 % and 40 % lower than national industrial averages.

Average personnel costs for clothing manufacturing were also generally well below national industrial averages, although the differences were not as marked as for apparent labour productivity. The combination of these two ratios provides information on the proportion of personnel costs per employee that were covered by value added per person employed (the wage adjusted labour productivity ratio). This ratio was considerably below parity (100 %) for Luxembourg (48.1 %) and Poland (63.0 %) in 2002, while average personnel costs were almost covered by value added per person employed in Sweden (94.2 %) and Slovenia (99.8 %). The wage adjusted labour productivity ratio for clothing manufacturing did not rise above the national industrial average in any of the Member States in 2002 ⁽¹³⁾.

The gross operating rate is one measure used to determine profitability. In 2002, the clothing manufacturing sector had a gross operating rate of 8.6 %, which was 0.1 percentage points lower than the average for the whole of textile, clothing and leather manufacturing (NACE Subsections DB and DC). As seen above, both Luxembourg and Poland reported that value added per person employed failed to cover average personnel costs and this resulted in negative gross operating rates for both of these Member States for clothing manufacturing (the second successive year in Luxembourg). Belgium (2001), Italy, Lithuania and Sweden were the only Member States to report that gross operating rates for clothing manufacturing were higher than their national industrial averages ⁽¹⁴⁾.

⁽¹²⁾ Belgium and Latvia, 2001; Greece, not available.

⁽¹³⁾ Belgium and Latvia, 2001; Greece and Cyprus, not available.

⁽¹⁴⁾ Belgium and Latvia, 2001; Greece, not available.

Table 5.15 Production value of selected items of apparel (CPA Group 18.2), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Men's and boys' overcoats, coats, anoraks and similar	18.22.11.10 and 18.22.11.20	86.3
Men's and boys' jackets and blazers of knitted or crocheted textiles	18.22.12.30	184.2
Men's or boys' trousers, breeches, shorts, bib and brace overalls, of knitted or crocheted textiles	18.22.12.70	350.4
Women's and girls' overcoats, coats, anoraks and similar	18.22.13.10 and 18.22.13.20	80.2
Women's and girls' jackets and blazers of knitted or crocheted textiles	18.22.14.30	277.9
Women's or girls' suits and ensembles, of knitted or crocheted textiles	18.22.14.60	219.7
Women's and girls' dresses and skirts of knitted or crocheted textiles	18.22.14.70 and 18.22.14.80	369.0
Women's or girls' trousers, breeches, shorts, bib and brace overalls, of knitted or crocheted textiles	18.22.14.90	211.7
Men's and boys' trousers and breeches of denim	18.22.24.42	573.6
Men's and boys' trousers; breeches and shorts of wool or fine animal hair	18.22.24.44	608.9
Men's or boys' trousers and breeches, of man-made fibres	18.22.24.45	386.5
Men's and boys' trousers; breeches; shorts; and bib and brace overalls of textiles	18.22.24.49	148.6
Women's and girls' trousers and breeches of denim	18.22.35.42	546.4
Women's and girls' bib and brace overalls of cotton	18.22.35.51	50.3
Women's and girls' shorts of cotton	18.22.35.61	30.5
Women's or girls' shorts, of man-made fibres	18.22.35.65	21.4
Women's and girls' trousers; breeches; bib and brace overalls of textiles	18.22.35.69	104.2

Source: Eurostat, PRODCOM

Table 5.16 Manufacture of clothing (NACE Group 17.7 and Division 18)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Denmark (47.2)	Denmark (34.8)	Latvia (169.2)	Latvia (24.5)
2	Belgium (39.0)	Luxembourg (32.0)	Belgium (156.6)	United Kingdom (13.7)
3	Germany (38.3)	Netherlands (30.4)	United Kingdom (155.7)	Malta (13.4)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.17

Wearing apparel; furs; knitted and crocheted articles (CPA Group 17.7 and Division 18)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Clothing	15 828	1.8	2.0	52 076	5.5	5.6	-36 248	30.4
Knitted and crocheted	1 788	0.2	0.3	7 626	0.8	0.9	-5 838	23.4
Leather	281	0.0	0.0	1 070	0.1	0.2	-790	26.2
Other clothing and accessories	13 228	1.5	1.6	43 051	4.5	4.5	-29 822	30.7
Fur and articles of fur	531	0.1	0.1	329	0.0	0.0	203	161.6

Source: Eurostat, Comext

EXTERNAL TRADE

EU-25 exports of clothing (CPA Group 17.7 and Division 18) to non-Community countries were valued at EUR 15.8 billion in 2004. This figure was considerably lower than the value of imports, which reached EUR 52.1 billion, resulting in a trade deficit of more than EUR 36 billion. At a more detailed level, the largest EU-25 deficits were recorded for outerwear (CPA Class 18.22) and for underwear, which includes t-shirts (CPA Class 18.23), at EUR 14.1 billion and EUR 12.6 billion respectively.

Some of the southern Member States reported a trading surplus (with all partners) for clothing, rising as high as EUR 5.5 billion in Italy in 2004. Portugal recorded the second highest surplus at EUR 1.5 billion, while Greece also posted a positive balance. Otherwise, the eight remaining Member States that recorded trade surpluses for

clothing were all among those that joined the EU in 2004, with the Czech Republic and Cyprus the only exceptions. Germany and the United Kingdom both recorded trade deficits of more than EUR 10 billion for clothing in 2004.

The most specialised Member States in terms of exporting clothing included the Baltic States, Greece, Italy, Malta and Portugal, where exports of clothes accounted for more than double the EU-25 average in terms of their contribution to industrial exports.

As with textile products, quotas for Chinese imports were negotiated as part of the Shanghai Agreement in June 2005 for six specific clothing items (see Table 5.18). Despite these transitional quota arrangements, total quantities imported in 2005 are likely to exceed the negotiated increases, often by a considerable margin. For

Table 5.18

EU-25 import levels for selected clothing imports from China, 2005 (% increase relative to import levels for 2004)

Brassières	153
T-shirts	247
Pullovers	251
Blouses	269
Dresses	302
Men's trousers	429

Source: European Commission, Directorate-General Trade

example, the Directorate-General Trade estimates that the total amount of pullovers imported into the EU-25 from China in 2005 is likely to be about seven times more than in 2004 (instead of an agreed level of 2.5 times higher).

5.3: LEATHER AND FOOTWEAR

This subchapter covers the leather and leather products manufacturing sector of NACE Division 19, hereafter referred to as leather manufacturing. It includes information on tanning and dressing, as well as the manufacture of luggage, handbags and footwear.

One of the major concerns for European tanners is access to raw materials (hides and skins), especially when concerns over animal health, such as BSE, result in manufacturers having to source hides from non-Community countries, where supply and price may not be guaranteed.

According to Cotance ⁽¹⁵⁾, footwear is by far the most important downstream market for tannery products, as it accounts for approximately half of the EU-25's tannery output, followed by clothing

⁽¹⁵⁾ the Confederation of National Associations of Tanners and Dressers of the European Community, more information at: <http://www.euroleather.com..>

Table 5.19

Manufacture of leather and leather products (NACE Division 19)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Leather and leather products	12 870	0.7	548	1.5
Tanning and dressing	2 183	0.1	62	0.2
Luggage, handbags and the like, saddlery	2 616	0.1	103	0.3
Footwear	8 070	0.5	383	1.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

(20%), furniture and upholstery (17%) and other leather goods (13%).

STRUCTURAL PROFILE

The EU-25's leather manufacturing sector (NACE Division 19) generated EUR 12.9 billion of value added in 2002, which equated to 17.7% of the textile, clothing and leather manufacturing total. Italy (EUR 6.0 billion of value added) was by far the most important

producer, accounting for almost half (46.3%) of the EU-25's value added. While the Italian leather manufacturing sector contributed more than three times (361.3%) the EU-25 average to industrial value added, a higher relative specialisation ratio was recorded in Portugal (428.6%); this was particularly the case for the activity of footwear (NACE Group 19.3), where the value added specialisation ratio in Portugal reached 624.1%.

Leather production fell by an average of 3.8 % per annum between 1993 and 2004 (compared with a fall of 3.3 % per annum for the whole of textile, clothing and leather manufacturing), while the most recent annual change for 2004 showed a reduction in output of 11.4 % (compared with a fall of 6.0 %). The employment index for leather manufacturing fell by 9.1 % between 2003 and 2004.

Leather manufacturing enterprises are typically family-owned SMEs, often with high degrees of regional concentration. Micro and small enterprises (employing less than 50 persons) generated 64.4 % of the EU-25's value added in the leather manufacturing sector in 2001.

PRODUCTIVITY AND PROFITABILITY

EU-25 apparent labour productivity for the leather manufacturing sector was EUR 23 500 per person employed in 2002; this was the third lowest among industrial NACE divisions. Apparent labour productivity was considerably below national industrial averages, from 25 % lower in the United Kingdom to more than 50 % in Finland, Portugal, Spain, Slovakia, the Czech Republic, Hungary and Poland ⁽¹⁶⁾. Average personnel costs were EUR 17 400 per employee in the EU-25's leather manufacturing sector in 2002, resulting in a wage adjusted labour productivity ratio of 135.3 %. Germany, Austria and the United Kingdom were the only Member States where the wage adjusted labour productivity ratio for leather manufacturing was above the national industrial average in 2002 ⁽¹⁷⁾.

⁽¹⁶⁾ Belgium, Cyprus and Austria, 2001, Denmark, Greece, Ireland, Latvia, Luxembourg and Slovenia, not available.

⁽¹⁷⁾ Belgium, Ireland, Austria and Slovenia, 2001; Denmark, Greece, Cyprus, Latvia and Luxembourg, not available.

Table 5.20

Manufacture of leather and leather products (NACE Division 19) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Italy (46.3)	Portugal (428.6)	Italy (36.0)	Portugal (429.7)
2	France (12.0)	Italy (361.3)	Spain (11.9)	Italy (260.9)
3	Spain (10.5)	Slovakia (211.2)	Portugal (11.4)	Slovakia (232.6)

(1) Belgium, Ireland, Cyprus and Austria, 2001; Denmark, Greece, Latvia and Slovenia, not available.

(2) Belgium, Cyprus and Austria, 2001; Denmark, Greece, Ireland, Latvia and Slovenia, not available.

(3) Ireland, Cyprus and Austria, 2001; Denmark, Greece and Slovenia, not available.

(4) Cyprus and Austria, 2001; Denmark, Greece, Ireland and Slovenia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.21

Production value of selected leather items (CPA Groups 19.2 and 19.3), EU-25, 2003

	Prodcom code	
Handbags	19.20.12.20	1 978.6
Articles normally carried in pocket or handbag	19.20.12.30	693.1
Men's town footwear with leather uppers (excl. waterproof footwear, footwear with a protective metal toe-cap)	19.30.13.51	3 392.7
Children's town footwear with leather uppers (excl. waterproof footwear, footwear with a protective metal toe-cap)	19.30.13.53	727.6
Women's sandals with leather uppers	19.30.13.62	1 007.9
Leather uppers and parts thereof of footwear	19.30.40.65	702.4

Source: Eurostat, PRODCOM

EXTERNAL TRADE

The EU-25 exported to non-Community countries some EUR 11.9 billion of leather and leather products (CPA Division 19) in 2004. This figure was almost EUR 6 billion below the level of imports. The EU-25's trade deficit could be largely attributed to footwear (CPA Group 19.3), where a deficit of EUR 5.3 billion was recorded.

Italy recorded by far the highest trade surplus (with all partners) for leather and leather products, some EUR 6.5 billion in 2004, while Portugal, Spain, Belgium and Slovakia were the only other Member States to record a positive balance for these goods. Italy and Portugal stood out as being noticeably the most specialised Member States for exporting leather and leather goods.

Table 5.22

Leather and leather products (CPA Division 19) External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Leather and leather products	11 894	1.3	1.5	17 828	1.9	1.8	-5 935	66.7
Leather	2 870	0.3	0.4	2 253	0.2	0.2	617	127.4
Luggage, handbags; saddlery and harness	3 486	0.4	0.3	4 765	0.5	0.5	-1 279	73.2
Footwear	5 538	0.6	0.8	10 810	1.1	1.0	-5 273	51.2

Source: Eurostat, Comext

Table 5.23

Manufacture of textiles (including knitted and crocheted articles) (NACE Division 17)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	120 092	7 332	1 848	1 097	15 309	257	:	9 516	15 168	508	37 953	40	169	292	537	683	56
Production (EUR million) (2)	121 607	7 051	1 769	1 062	14 192	251	:	9 343	14 654	471	37 710	38	170	293	527	610	54
Value added at factor cost (EUR million) (3)	35 795	1 964	562	386	4 853	85	:	2 925	3 991	179	10 485	15	108	92	169	197	34
Gross operating surplus (EUR million) (3)	10 594	688	203	111	951	33	:	851	728	46	4 097	5	66	15	112	27	20
Purchases of goods and services (EUR million)	:	5 315	1 330	714	10 238	174	:	6 871	11 293	326	27 368	26	103	204	362	481	20
Gross investment in tangible goods (EUR million) (4)	:	367	122	54	435	27	:	412	430	12	1 575	2	20	28	:	45	14
Number of persons employed (thousands)	1 244	40	64	8	124	11	:	110	113	6	290	1	10	19	1	35	1
Personnel costs (EUR million) (3)	25 201	1 277	359	275	3 903	52	:	2 074	3 263	133	6 389	10	43	77	57	171	14
App. labour productivity (EUR thous./pers. emp.) (3)	28.8	45.2	8.8	49.3	39.0	7.7	:	26.6	35.4	28.3	36.2	17.2	10.3	4.8	130.4	5.7	27.0
Average personnel costs (EUR thous./employee) (3)	21.8	30.6	6.0	36.2	32.2	4.7	:	20.1	29.3	21.2	25.8	:	4.0	4.0	44.3	5.3	11.6
Wage adjusted labour productivity (%) (3)	132.2	147.5	147.0	136.0	121.1	163.5	:	132.4	120.9	133.1	140.2	:	255.1	118.6	294.5	106.6	232.3
Gross operating rate (%) (3)	8.8	9.2	11.0	10.1	6.2	12.9	:	8.9	4.8	9.1	10.8	:	11.2	38.6	5.3	20.9	3.9
Investment per person employed (EUR thousand) (4)	:	8.4	1.9	6.9	3.5	2.4	:	3.7	3.8	1.9	5.4	:	1.9	2.0	1.4	:	1.3
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	2 988	2 751	2 751	4 448	1 113	261	698	1 070	11 911	352	:	831	:	:	:	575	1 998
Production (EUR million)	2 774	2 583	2 420	4 364	700	254	695	1 007	11 236	342	:	831	:	:	:	513	2 016
Value added at factor cost (EUR million)	860	906	826	1 323	188	88	285	359	4 468	94	:	293	:	:	:	200	814
Gross operating surplus (EUR million)	245	266	35	365	31	17	105	88	1 333	36	:	117	:	:	:	42	178
Purchases of goods and services (EUR million)	2 111	1 883	1 969	3 132	894	177	424	719	7 302	274	:	604	:	:	:	380	1 201
Gross investment in tangible goods (EUR million)	73	105	137	350	32	25	35	40	376	80	:	122	:	:	:	16	:
Number of persons employed (thousands)	20	20	86	95	15	19	6	10	123	35	:	99	:	:	:	4	14
Personnel costs (EUR million)	616	640	792	958	157	71	181	272	3 134	58	:	175	:	:	:	158	636
App. labour productivity (EUR thous./pers. emp.)	43.9	45.8	9.6	13.9	12.4	4.7	48.2	37.5	36.4	2.7	:	3.0	:	:	:	47.5	60.3
Average personnel costs (EUR thous./employee)	34.8	33.6	10.7	10.3	10.6	3.8	32.5	32.8	26.5	1.7	:	1.8	:	:	:	37.9	:
Wage adjusted labour productivity (%) (3)	126.0	136.4	90.2	134.5	116.7	123.8	148.4	114.3	137.4	158.9	:	163.9	:	:	:	125.3	:
Gross operating rate (%) (3)	8.2	9.7	1.3	8.2	2.8	6.5	15.0	8.2	11.2	10.3	:	14.1	:	:	:	7.3	8.9
Investment per person employed (EUR thousand)	3.7	5.3	1.6	3.7	2.1	1.3	5.9	4.2	3.1	2.3	:	1.2	:	:	:	3.9	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001. (4) Belgium, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 5.24

Manufacture of clothing (excluding knitted and crocheted articles) (NACE Division 18)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	86 280	2 058	764	629	10 994	196	:	7 611	13 183	295	31 042	95	114	331	2 101	161	
Production (EUR million) (2)	81 824	2 030	727	624	9 931	161	:	7 497	12 116	238	30 807	85	119	316	2 881	160	
Value added at factor cost (EUR million) (3)	24 101	462	299	171	2 564	71	:	2 418	3 282	89	7 914	34	68	159	1 341	57	
Gross operating surplus (EUR million) (3)	7 478	210	91	57	645	14	:	722	770	16	3 428	10	26	38	0	40	21
Purchases of goods and services (EUR million)	:	1 532	479	465	8 180	124	:	5 342	9 988	198	23 244	62	60	172	1 665	94	
Gross investment in tangible goods (EUR million)	:	36	22	30	119	11	:	174	186	3	736	1	7	16	:	41	2
Number of persons employed (thousands)	1 287	10	55	4	66	14	:	120	92	3	291	2	14	42	0	72	3
Personnel costs (EUR million) (3)	16 623	252	207	114	1 919	57	:	1 696	2 513	74	4 486	25	42	121	1 301	36	
App. labour productivity (EUR thous./pers. emp.) (3)	18.7	41.4	5.4	46.1	38.9	5.0	:	20.2	35.5	28.1	27.2	14.5	4.5	3.8	15.8	4.7	17.5
Average personnel costs (EUR thous./employee) (3)	14.7	25.8	4.8	33.9	30.3	4.1	:	16.0	27.9	23.6	19.8	:	2.8	2.9	32.0	4.5	11.5
Wage adjusted labour productivity (%) (3)	127.0	160.6	113.9	136.0	128.3	124.5	:	126.1	127.0	119.4	137.5	:	162.7	129.6	49.4	104.0	151.8
Gross operating rate (%) (3)	8.7	10.1	11.9	9.0	5.9	7.2	:	9.5	5.8	5.3	11.0	:	10.3	22.7	11.5	-9.8	4.0
Investment per person employed (EUR thousand)	:	3.5	0.4	8.1	1.8	0.8	:	1.5	2.0	1.0	2.5	:	0.5	0.5	0.4	:	0.6
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	757	978	2 344	3 750	299	234	612	349	7 406	591	:	1 570	:	:	:	157	1 039
Production (EUR million)	632	824	2 196	3 560	286	221	548	319	6 790	568	:	1 527	:	:	:	146	1 036
Value added at factor cost (EUR million)	194	286	898	1 363	146	107	207	96	2 517	220	:	755	:	:	:	54	290
Gross operating surplus (EUR million)	63	54	-259	255	7	10	58	34	1 051	54	:	250	:	:	:	17	55
Purchases of goods and services (EUR million)	552	702	1 432	2 387	158	127	411	255	4 862	386	:	869	:	:	:	104	746
Gross investment in tangible goods (EUR million)	16	32	61	170	9	9	9	6	211	53	:	161	:	:	:	2	:
Number of persons employed (thousands)	6	11	184	148	17	29	6	4	73	136	:	325	:	:	:	1	6
Personnel costs (EUR million)	131	232	1 157	1 108	138	97	152	62	1 466	166	:	506	:	:	:	38	234
App. labour productivity (EUR thous./pers. emp.)	33.2	27.0	4.9	9.2	8.7	3.7	34.2	26.9	34.6	1.6	:	2.3	:	:	:	49.5	46.0
Average personnel costs (EUR thous./employee)	28.7	24.2	7.9	7.9	8.8	3.4	26.9	29.1	21.4	1.3	:	1.6	:	:	:	34.9	:
Wage adjusted labour productivity (%) (3)	115.5	111.8	62.0	116.1	99.2	110.6	127.3	92.2	161.9	125.6	:	147.1	:	:	:	141.8	:
Gross operating rate (%) (3)	8.4	5.5	-11.1	6.8	2.5	4.4	9.4	9.8	14.2	9.1	:	15.9	:	:	:	10.7	5.3
Investment per person employed (EUR thousand)	2.7	3.0	0.3	1.1	0.6	0.3	1.5	1.7	2.9	0.4	:	0.5	:	:	:	1.8	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

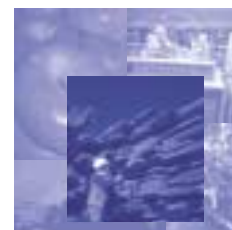
Table 5.25

Manufacture of leather and leather products (NACE Division 19)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	
Turnover (EUR million) (2)	50 103	362	274	:	4 058	48	:	5 495	4 612	72	26	196	37	:	52	0	337	36
Production (EUR million) (3)	48 835	278	256	:	3 668	46	:	5 440	4 123	67	25	427	26	:	51	0	303	36
Value added at factor cost (EUR million) (4)	12 870	87	91	:	1 049	15	:	1 354	1 549	15	5	957	12	:	11	0	126	12
Gross operating surplus (EUR million) (4)	4 302	24	11	:	333	4	:	362	430	0	2	345	5	:	2	0	18	4
Purchases of goods and services (EUR million) (2)	38 810	261	187	:	2 949	32	:	4 210	3 022	60	20	269	25	:	41	0	220	23
Gross investment in tangible goods (EUR million) (2)	:	7	5	:	73	3	:	112	106	8	807	2	:	3	:	12	1	
Number of persons employed (thousands) (2)	548	2	17	:	26	2	:	65	43	1	197	1	1	3	0	23	1	
Personnel costs (EUR million) (4)	8 568	64	80	:	716	11	:	992	1 119	15	3	612	7	:	10	0	108	8
App. labour productivity (EUR thous./pers. emp.) (4)	23.5	35.6	5.4	:	40.9	6.1	:	20.8	35.8	21.1	30.2	20.2	:	3.9	:	5.4	15.9	
Average personnel costs (EUR thous./employee) (5)	17.4	28.5	5.2	:	29.0	4.6	:	16.2	26.3	21.7	22.0	:	:	3.4	:	4.9	11.1	
Wage adjusted labour productivity (%) (5)	135.3	124.9	104.1	:	140.8	133.4	:	128.1	136.2	97.1	137.1	:	:	113.8	:	110.0	143.0	
Gross operating rate (%) (4)	8.6	6.6	3.9	:	8.2	8.0	:	6.6	9.3	-0.4	9.0	12.6	:	3.1	:	5.2	10.0	
Investment per person employed (EUR thousand) (2)	:	2.9	0.3	:	2.8	1.1	:	1.7	2.5	11.8	4.1	3.8	:	0.9	:	0.5	0.9	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH	
Turnover (EUR million)	392	959	921	2 504	:	255	227	179	2 450	119	:	645	:	:	:	56	:	
Production (EUR million)	343	903	875	2 432	:	257	226	161	1 902	113	:	642	:	:	:	53	:	
Value added at factor cost (EUR million)	108	273	270	683	:	85	88	44	890	33	:	263	:	:	:	16	:	
Gross operating surplus (EUR million)	36	114	-40	147	:	26	28	8	453	7	:	90	:	:	:	3	:	
Purchases of goods and services (EUR million)	280	699	636	1 813	:	182	142	132	1 530	87	:	417	:	:	:	40	:	
Gross investment in tangible goods (EUR million)	8	26	27	91	:	23	8	3	41	7	:	68	:	:	:	1	:	
Number of persons employed (thousands)	2	6	44	62	:	17	2	1	17	20	:	116	:	:	:	0	:	
Personnel costs (EUR million)	71	159	310	536	:	60	60	37	438	27	:	173	:	:	:	13	:	
App. labour productivity (EUR thous./pers. emp.)	43.6	42.1	6.1	10.9	:	5.1	35.8	30.3	52.9	1.6	:	2.3	:	:	:	42.9	:	
Average personnel costs (EUR thous./employee)	34.5	25.3	8.8	8.8	:	3.6	25.7	31.2	26.7	1.4	:	1.5	:	:	:	34.5	:	
Wage adjusted labour productivity (%)	126.2	166.3	69.4	124.0	:	142.7	139.2	97.0	198.0	121.0	:	149.0	:	:	:	124.5	:	
Gross operating rate (%)	9.3	11.9	-4.4	5.9	:	10.0	12.3	4.2	18.5	5.4	:	13.9	:	:	:	5.9	:	
Investment per person employed (EUR thousand)	3.4	4.0	0.6	1.5	:	1.4	3.1	2.3	2.4	0.4	:	0.6	:	:	:	2.1	:	

(1) Ireland and Austria, 2001. (2) Cyprus, 2001. (3) EU-25 and Cyprus, 2001. (4) Belgium and Cyprus, 2001. (5) Belgium, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Wood and paper



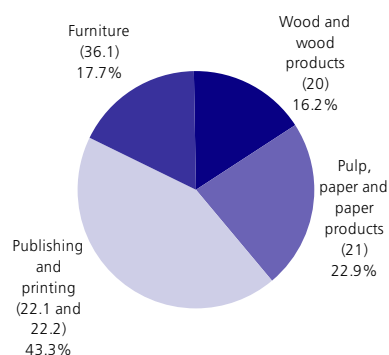
Security of supply is an important issue in the wood and paper sector, particularly for the first processing stages of the production chain, where the highest proportion of costs is accounted for by raw material inputs. Related issues include sustainable development initiatives that aim to ensure that forestry stocks are managed in a responsible manner, and recycling initiatives for both wood and paper that may provide alternative inputs.

The wood sector is an important supplier of goods to the building (see Subchapter 15.1) and furniture (see Subchapter 13.1) sectors and is therefore highly dependent on the level of activity in these two sectors. Fibres that are derived from pulp processing are subsequently used to manufacture paper and board, which is used in a variety of industrial and consumer applications (packaging, household and sanitary paper products, newsprint, books and magazines) – see Figure 6.1.

STRUCTURAL PROFILE

The EU-25's wood and paper manufacturing sector (NACE Divisions 20 and 21) generated EUR 78.8 billion of value added in 2002, equivalent to 4.5 % of industrial (NACE Sections C to E) value added; it employed almost 2.0 million persons (5.5 % of the industrial workforce). The manufacture of pulp, paper and paper products (NACE Division 21) was the larger of the two NACE divisions covered by this chapter, in terms of value added, generating 58.6 % of the EU-25's wood and paper manufacturing value added in 2002. However, in terms of employment, the manufacture of wood and wood products (NACE Division 20) contributed 62.4 % of sectoral employment.

Figure 6.1
Manufacture of forest-based products
(NACE Division 20; Division 21; Groups
22.1 and 22.2; Group 36.1)
Breakdown of sectoral value added,
EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Among the Member States ⁽¹⁾, Germany generated the largest proportion (20.2 %) of value added in the EU-25's wood and paper manufacturing sector in 2002, followed by the United Kingdom, Italy and France, that each recorded shares of between 12.3 % and 11.2 %, while relatively high shares of the EU-25 total were also recorded for Sweden (8.0 %) and Finland (7.1 %). Indeed, these last two Member States were among the most specialised in wood and paper manufacturing in 2002, as this sector accounted for 12.9 % of industrial value added in Sweden and 17.3 % of the total in Finland; wood and paper manufacturing also played a relatively important role in the industrial economies of Estonia, Austria, Portugal, Cyprus and Lithuania.

⁽¹⁾ Belgium and Latvia, 2001; Greece and Malta, not available.

This chapter covers forest-based activities: more specifically the manufacture of wood and wood products (classified under NACE Division 20) and the manufacture of pulp, paper and paper products (found under NACE Division 21). The former includes all stages of wood processing that follow on from the activity of forestry (which is not covered by this publication), while the latter covers downstream activities that use by-products from the initial processing of wood; together these activities are hereafter referred to as the wood and paper manufacturing sector.

NACE

- 20: manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials;
- 20.1: sawmilling and planing of wood; impregnation of wood;
- 20.2: manufacture of veneer sheets; manufacture of plywood, laminboard, particle board, fibre board and other panels and boards;
- 20.3: manufacture of builders' carpentry and joinery;
- 20.4: manufacture of wooden containers;
- 20.5: manufacture of other products of wood; manufacture of articles of cork, straw and plaiting materials;
- 21: manufacture of pulp, paper and paper products;
- 21.1: manufacture of pulp, paper and paperboard;
- 21.2: manufacture of articles of paper and paperboard.

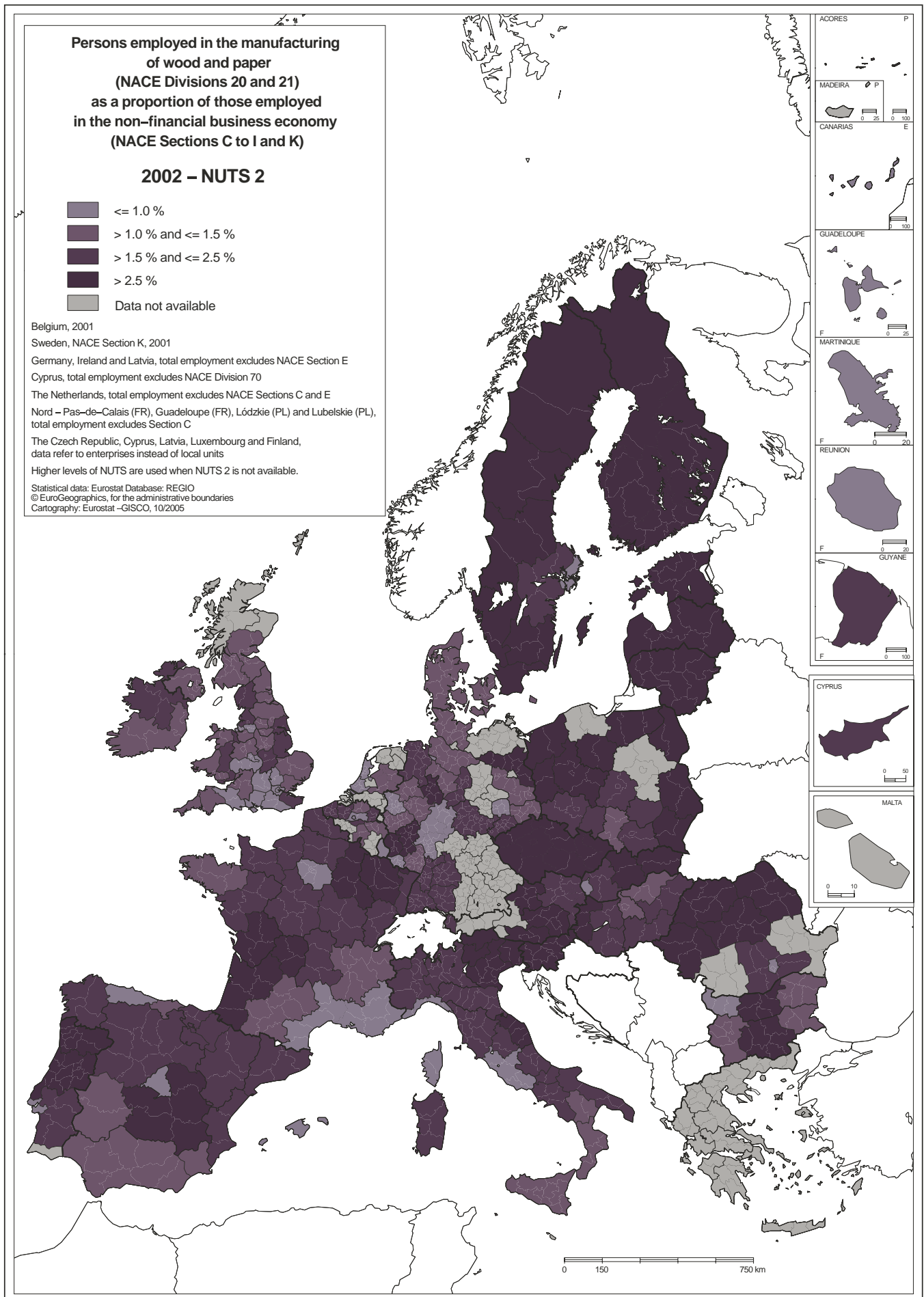


Table 6.1

Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Wood and wood products; pulp, paper and paper products	78 778	4.5	1 963	5.5
Wood and wood products	32 618	1.9	1 225	3.4
Pulp, paper and paper products	46 160	2.6	739	2.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 6.2

Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (20.2)	Finland (387.5)	Germany (16.2)	Latvia (345.5)
2	United Kingdom (12.3)	Latvia (378.3)	Italy (13.3)	Finland (274.1)
3	Italy (12.2)	Estonia (302.5)	United Kingdom (9.5)	Estonia (246.1)

(1) Belgium and Latvia, 2001; Greece and Malta, not available.

(2) Belgium and Latvia, 2001; Greece, Ireland and Malta, not available.

(3) Greece and Malta, not available.

(4) Latvia, 2001; Greece, Ireland and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

According to a study by PricewaterhouseCoopers⁽²⁾, Swedish and Finnish enterprises dominated the EU-25's wood and paper sector in 2003, accounting for more than 68 % of the turnover generated among the 10 largest producers (note the activity coverage of this study does not follow precisely the same definition as the NACE, while the enterprise is not defined in the same way as in SBS; meaning that care should be taken when interpreting these data in relation to SBS data) – see Table 6.3.

According to annualised short-term statistics, the production indices for the EU-25's wood and wood products sector and its pulp, paper and paper products sector generally followed a similar evolution between 1993 and 2004. Output rose for both activities in 1994, before falling in both 1995 and 1996, after which an expansion in activity was recorded through until 2000. From 1997 to 2000 production grew on average by 3.7 % per annum in the EU-25's wood and wood products manufacturing sector and by 2.1 % per annum for the pulp, paper and paper products manufacturing sector. However, 2001 was marked by another fall in the index of production for both activities, although the contraction was considerably more pronounced for the manufacture of wood and wood products (-3.0 %). From 2002 to 2004 there was a recovery in output for both activities, with average growth of 2.0 % per annum for wood and wood products and 2.7 % per annum for pulp, paper and paper products.

Table 6.3

Top ten enterprises in the forest and paper sector in the EU-25, 2003 (EUR million)

	World ranking	Sales	Net income	Return on capital employed (%) (1)	
Stora Enso	FI	5	12 150.8	145.9	2.1
UPM	FI	6	9 931.0	366.9	3.8
Svenska Cellulosa	SE	7	9 337.0	556.0	5.9
Metsäliitto	FI	11	8 303.6	-15.9	1.2
Anglo American (Mondi)	UK	15	4 975.2	309.4	10.0
Jefferson Smurfit	IE	16	4 737.4	-67.2	4.0
Worms	FR	18	4 207.0	111.4	5.4
Kappa Packaging	NL	26	2 836.8	-23.9	4.3
David S. Smith (2)	UK	30	2 134.9	67.2	7.5
Holmen	SE	37	1 730.9	158.2	6.4

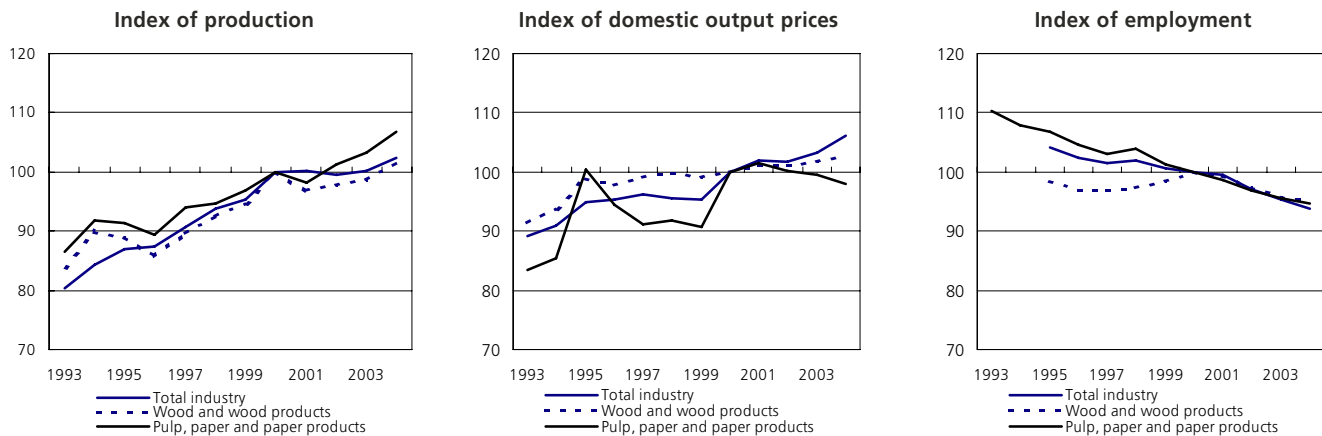
(1) Calculated as net incomes before unusual items, minority interest and interest expense, on a after-tax basis, divided by average total assets less average non-interest-bearing current liabilities.

(2) Year-ending 30 April, 2003.

Source: PricewaterhouseCoopers 2004 Global Forest and Paper Industry Survey, available at: <http://www.pwcglobal.com/forestry>

(2) See '2004 Global Forest and Paper Industry Survey'; more information at: <http://www.pwcglobal.com>.

Figure 6.2
Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Evolution of main indicators, EU-25 (2000=100)



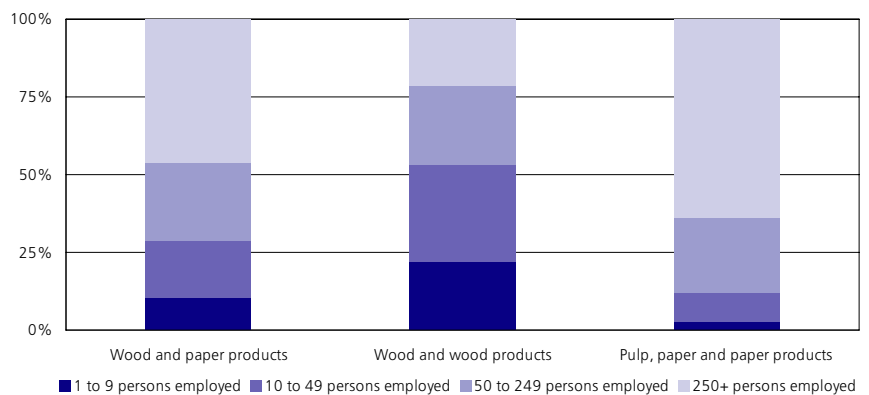
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The EU-25's domestic output price index for the manufacture of wood and wood products shows that prices fell in 1996, 1999 and 2002, with the most significant reduction being a 1.1 % decrease in 1996, and the highest increase some 5.3 % in 1995. Note that between 1998 and 2004 domestic output prices of wood and wood products never fluctuated by more than +/-1 % from one year to the next.

Domestic output price changes for the manufacture of pulp, paper and paper products were more volatile. Indeed, prices rose and fell in an alternating fashion every one or two years from 1993 to 2001, including double-digit price increases in 1995 and 2000, after which the output price index for pulp, paper and paper products fell for three consecutive years, with price reductions in the EU-25 averaging -1.1 % per annum over this period.

Enterprises operating in the wood and wood products subsector are often located in rural areas close to natural forestry resources, contributing to economic activity and employment in remote regions. However, while the wood and wood products sector was characterised by a high number of small and medium-sized enterprises (SMEs, with less than 250 persons employed), the pulp, paper and paper products sector had a predominance of large enterprises (with 250 or more persons

Figure 6.3
Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

employed). SMEs accounted for 78.8 % of the value added that was generated in the EU-25's wood and wood products sector in 2001, compared with an industrial average of slightly more than 40 %. On the other hand, value added was concentrated among large enterprises within the pulp, paper and paper products sector, as enterprises with 250 or more persons employed generated 63.7 % of value added, above the industrial average of 57.2 %.

EMPLOYMENT CHARACTERISTICS

According to Labour Force Survey data, some 80.3 % of the EU-25's wood and paper manufacturing workforce (NACE Divisions 20 and 21) in 2004 were male, a proportion that was 9.3 percentage points higher than the industrial average. In all of the Member States for which data are available ⁽³⁾, male employment accounted for a larger share of the wood and paper manufacturing workforce than the industrial average, with the difference rising to 24.7 percentage points in Lithuania. The full-time employment rate in the EU-25's wood and wood products workforce in 2004 was 93.9 %, a slightly higher proportion than the industrial average (92.7 %). However, full-time employment rates were somewhat lower than national industrial averages in the Czech Republic, Lithuania, Hungary, the Netherlands, Slovenia and Slovakia.

⁽³⁾ Luxembourg and Malta, not available.

In terms of the age profile of the wood and paper manufacturing workforce in 2004, some 11.7 % of those employed in the EU-25 were aged 15 to 24 (1.7 percentage points above the industrial average), 68.1 % of the workforce were aged 25 to 49 (close to the industrial average of 68.4 %), while the remaining 20.2 % were aged 50 or more (1.4 percentage points below the industrial average).

PRODUCTIVITY AND PROFITABILITY

In 2002, apparent labour productivity was EUR 40 100 per person employed in the EU-25's wood and paper manufacturing sector, EUR 9 000 lower than the industrial average. However, apparent labour productivity for the pulp, paper and paper products manufacturing subsector (EUR 62 500 per person employed) was 2.3 times that recorded for the wood and wood products manufacturing subsector (EUR 26 600 per person employed). Average personnel costs per employee for the EU-25's pulp, paper and paper products manufacturing subsector were EUR 36 300 per employee in 2002, 1.7 times the average for the wood and wood products manufacturing subsector (EUR 21 300). Average personnel costs for the wood and paper manufacturing sector as a whole were below national industrial averages in all Member States ⁽⁴⁾, except in Finland, where they were EUR 3 400 per employee higher.

⁽⁴⁾ Belgium and Latvia, 2001; Greece, Ireland, Cyprus and Malta, not available.

Table 6.4
Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	80.3	113.1	93.9	101.3	11.7	68.1	20.2
BE	87.1	114.1	93.8	104.8	11.5	76.2	12.3
CZ	74.1	116.8	96.0	98.6	9.6	66.3	24.2
DK	78.8	112.1	100.0	109.7	:	63.9	27.3
DE	76.6	105.9	89.7	100.5	9.8	67.0	23.1
EE	64.3	117.1	98.4	100.7	21.0	66.4	29.2
EL	91.9	125.5	98.5	100.3	9.8	69.8	20.5
ES	85.3	113.1	98.3	101.3	14.7	65.8	19.4
FR	78.5	109.8	95.3	101.2	8.9	71.6	19.5
IE	85.1	122.5	93.7	100.2	21.1	67.5	:
IT	82.0	115.2	94.1	100.2	9.4	73.6	17.0
CY	75.6	114.7	98.0	103.4	:	67.9	26.1
LV	75.2	128.1	97.1	102.0	12.3	74.9	12.8
LT	79.6	144.9	93.9	97.4	13.4	71.5	16.7
LU	:	:	:	:	:	:	:
HU	78.8	128.8	93.8	96.9	11.2	69.3	19.5
MT	:	:	:	:	:	:	:
NL	82.9	106.4	72.4	97.8	10.5	67.3	22.2
AT	83.8	114.0	91.2	102.3	13.6	75.4	11.0
PL	86.2	127.5	95.8	100.2	19.6	67.8	12.7
PT	76.6	129.9	97.8	100.3	10.0	68.6	21.3
SI	74.3	117.1	92.5	96.5	5.7	74.8	19.5
SK	75.9	122.5	98.4	99.8	11.8	72.3	15.8
FI	80.5	111.7	95.2	101.4	10.7	58.6	30.7
SE	82.2	110.1	91.7	100.5	5.6	57.4	37.0
UK	78.3	104.7	92.5	101.8	14.0	60.0	26.0

(1) Ireland and Latvia, 2003.

(2) Estonia and Cyprus, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

Combining the data for value added and personnel costs, the resulting wage adjusted labour productivity ratio (adjusted for the share of employees in persons employed) was 155.3 % in 2000 for the EU-25's wood and paper sector. Fresher data is available for 2002 at a more detailed level, showing that the wage adjusted labour productivity ratio for the EU-25's pulp, paper and paper products manufacturing sector was 172.3 %, which was 1.4 times as high as the equivalent ratio for wood and wood products manufacturing (125.0 %).

The gross operating rate for the EU-25's wood and paper manufacturing sector in 2002 was 11.3 %, somewhat higher than the industrial average (10.0 %). This profitability rate was 3.1 percentage points higher for the EU-25's pulp, paper and paper products sector (12.7 %) than it was for the wood and wood products sector (9.5 %).

Table 6.5

Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Finland (83.0)	Luxembourg (42.5)	Latvia (326.3)	Latvia (30.0)
2	Luxembourg (82.1)	Finland (42.4)	Slovakia (250.8)	Ireland (16.1)
3	Sweden (76.1)	Sweden (41.0)	Estonia (197.6)	Sweden (15.6)

(1) Belgium and Latvia, 2001; Greece and Malta, not available.

(2) Belgium and Latvia, 2001; Greece, Cyprus and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EXTERNAL TRADE

With total exports of wood and paper (CPA Divisions 20 and 21) from the EU-25 to non-Community countries valued at EUR 20.2 billion in 2004, these products represented 2.2 % of industrial (CPA Sections C to E) exports. In the same year, the EU-25 imported EUR 17.8 billion worth of wood and paper products, which represented 1.9 % of industrial imports. The EU-25's external trade performance was split between a EUR 3.8 billion trade surplus for pulp, paper and paper products (CPA Division 21) and a EUR 1.4 billion trade deficit for wood and wood products (CPA Division 20).

Germany was the largest exporter of wood and paper products among the Member States, with an 18.1 % share of total intra- and extra-EU trade, followed by Sweden (13.2 %) and Finland (10.1 %). However, exports of wood and paper products represented more than one quarter (29.3 %) of industrial exports in Latvia in 2004, while exports of these products accounted for 19.0 % of industrial exports in Finland, 12.8 % in Estonia and 11.5 % in Sweden, the only Member States with double-digit shares. In contrast with these high contributions to industrial exports, wood and paper products accounted for less than 5 % of industrial imports in all of the Member States, the largest share in 2004 being 4.9 % of industrial imports in Latvia.

Table 6.6

Wood and wood products; pulp, paper and paper products (NACE Divisions 20 and 21)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Wood and wood products; pulp, paper and paper products	20 170	2.2	2.7	17 761	1.9	2.5	2 408	113.6
Wood and wood products	7 672	0.9	0.8	9 070	1.0	1.1	-1 398	84.6
Pulp, paper and paper products	12 498	1.4	1.9	8 692	0.9	1.4	3 806	143.8

Source: Eurostat, Comext

6.1: WOOD AND WOOD PRODUCTS

The wood and wood products sector is classified as NACE Division 20. It is split into five groups that cover the initial processing stages of sawing and planing of wood (NACE Group 20.1), through semi-processed wood products, such as the manufacture of boards and panels (NACE Group 20.2) and builders' carpentry and joinery (NACE Group 20.3), towards finished products such as wooden containers (NACE Group 20.4) and other wood products, including household goods made from wood (NACE Group 20.5).

The demand for wood products is mainly derived from two downstream sectors: the furniture sector (see Subchapter 13.1) and the construction sector (see Subchapter 15.1). Sawn wood represents one of the largest areas of activity within the EU-25's wood processing sector. Residues created from sawing can be used as inputs for the manufacture of wood-based panels, as well as the manufacture of paper and pulp, or to produce energy.

According to the European Commission's Directorate-General for Enterprise⁽⁵⁾, the majority of the EU-25's wood that is used as an input for wood processing activities is procured from within the internal market, although the EU does run a trade deficit for wood and wood products. The cost of raw materials (including their transport) is a key factor in determining the competitiveness of this sector. Hardwoods are usually deciduous trees: they are grown in areas with mild climates and ample rainfall, while softwoods (which are often coniferous trees) tend to be grown in cold climates, with harsh winters. Hardwoods tend to be used for products such as furniture and flooring, where the appearance of the product is of particular importance. There is a high degree of competition in wood markets from fast-growing plantation-based resources in countries like Brazil, Chile, Indonesia and Malaysia. The depletion of wood stocks (in particular those of tropical hardwoods) is of particular concern for sustainable development.

⁽⁵⁾ More information at: <http://www.europa.eu.int/comm/enterprise>; see under the heading 'Industry sectors'.

STRUCTURAL PROFILE

The EU-25's manufacture of wood and wood products (NACE Division 20) generated EUR 32.6 billion of value added in 2002, equivalent to 1.9 % of the industrial (NACE Sections C to E) total. There were 1.2 million persons employed in the wood and wood products sector in 2002, which represented 3.4 % of the industrial workforce. In value added terms, the manufacture of builder's carpentry and joinery (NACE Group 20.3) was the most important contributor to EU-25 value added within the wood and wood products sector, generating 43.2 % of sectoral value added in 2002. This share was twice that of the second largest activity (at the NACE group level), namely sawmilling, planing and impregnation of wood (NACE Group 20.1, 21.3 %); both of these subsectors accounted for an even higher share of sectoral employment.

Table 6.7

Wood and wood products (NACE Division 20)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Wood and wood products	32 618	1.9	1 225	3.4
Sawmilling and planing of wood, impregnation of wood	6 948	0.4	272	0.8
Veneer sheets; plywood, panels and boards	4 848	0.3	122	0.3
Builders' carpentry and joinery	14 089	0.8	551	1.5
Wooden containers	2 595	0.1	95	0.3
Other wood products; cork, straw & plaiting materials	3 984	0.2	179	0.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 6.8

Production value of selected wood products (CPA Division 20), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Wood; sawn or chipped lengthwise; sliced or peeled; of a thickness > 6mm; excluding coniferous and tropical woods and oak blocks, strips and friezes	20.10.10.50	1 596.0
Coniferous wood in chips or particles	20.10.23.03	1 147.8
Particle board and similar board of wood surfaced with melamine resin impregnated paper (excl. waferboard or oriented strand board)	20.20.13.37	3 437.6
Particle board and similar board of wood unworked or sanded (excl. waferboard or oriented strand board)	20.20.13.33	2 226.6
Fibreboard of a density > 0.8 g/cm ³	20.20.14.13 and 20.20.14.15	2 359.3
Fibreboard of a density > 0.5 g/cm ³ but <= 0.8 g/cm ³	20.20.14.33 and 20.20.14.35	1 617.4
Windows; French-windows and their frames of wood	20.30.11.10	6 684.9
Wooden frames for paintings; photographs; mirrors or similar objects	20.51.14.10	1 244.0
Natural cork; debarked or roughly squared; in rectangular or square blocks; plates; sheets or strips	20.52.11.50	297.1

Source: Eurostat, PRODCOM

Table 6.9
Wood and wood products (NACE Division 20)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Wood and wood products	7 672	0.9	0.8	9 070	1.0	1.1	-1 398	84.6
Wood, sawn, planed or impregnated	2 700	0.3	0.3	4 190	0.4	0.5	-1 491	64.4
Veneer sheets; plywood, panels and boards	2 581	0.3	0.2	2 107	0.2	0.3	474	122.5
Builders' joinery and carpentry	1 191	0.1	0.1	922	0.1	0.1	268	129.1
Wooden containers	343	0.0	0.0	113	0.0	0.0	230	302.9
Other wood products; cork, straw and plaiting materials	858	0.1	0.1	1 737	0.2	0.2	-879	49.4

Source: Eurostat, Comext

A distinction can be made between primary and secondary wood processing activities, classified according to the nature of goods and services produced or the production process used. Primary wood processing consists of the activities of sawmilling (sawmilling and planing of wood, impregnation of wood) and the manufacture of wood-based panels (for example, veneer sheets, plywood, particleboard or fibreboard), while secondary processing comprises the manufacture of builders' carpentry and joinery, wooden containers, as well as other wood products. Almost two thirds of sectoral value added in the EU-25 came from secondary wood processing activities in 2002.

Germany (19.0 % of the EU-25 total), Italy (15.0 %), the United Kingdom (11.7 %) and France (11.0 %) reported the highest value added in the wood and wood products sector in 2002. Latvia (2001) and Estonia were particularly specialised in wood and wood products manufacturing compared with the

other Member States ⁽⁶⁾, as this sector contributed 15.9 % and 11.5 % of their industrial value added in 2002.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 26 600 per person employed in the EU-25's wood and wood products manufacturing sector in 2002, one of the lowest productivity levels (according to this measure) among industrial NACE divisions, and EUR 22 500 per person employed below the industrial average. Average personnel costs were EUR 21 300 per employee, compared with EUR 32 300 for manufacturing (NACE Section D) as a whole. The resulting wage adjusted labour productivity ratio (combining the two previous ratios) was 125.0 % for the EU-25's wood and wood products manufacturing sector, lower than the manufacturing average of 140.3 %.

⁽⁶⁾ Belgium and Latvia, 2001, Greece, Ireland and Malta, not available.

EXTERNAL TRADE

The EU-25 had a EUR 1.4 billion trade deficit (relative to non-Community countries) for wood and wood products (CPA Division 20) in 2004, resulting from EUR 7.7 billion of exports and EUR 9.1 billion of imports. The EU-25's exports of wood and wood products were mainly concentrated among first processing products such as wood that was sawn, planed and impregnated (CPA Group 20.1) or veneer sheets, plywood, laminboard, particle board, fibre board and other panels and boards (CPA Group 20.2), while these products also represented the largest share of the EU-25's imports.

Among the Member States, Germany was the largest exporter of wood and wood products (16.4 % of the EU total for intra- and extra-EU trade combined) and the second largest importer (14.1 %) behind the United Kingdom (16.1 %).

6.2 PULP, PAPER AND PAPER PRODUCTS

The pulp, paper and paper products sector is broken down in the NACE classification into two groups. The first, NACE Group 21.1, covers the manufacture of pulp, paper and paperboard, through mechanical and chemical processes. These products often require further processing, as covered by the second activity, NACE Group 21.2, which includes the manufacture of corrugated, household and sanitary paper products, as well as newsprint, wallpaper and stationery.

Paper is a natural product, a renewable raw material. Pulp, is the principal input for the manufacture of paper and board: it can be produced from fresh wood, woodchips from sawmills, recovered paper, and sometimes even from textiles, agricultural by-products or

industrial crops. The price of raw material inputs is a key component to production costs within this sector.

According to the CEPI ⁽⁷⁾, the use of recycled fibre has grown steadily, such that by 2004 around 50 % of the fibre mass used in paper production within the EU ⁽⁸⁾ was accounted for by recovered paper.

⁽⁷⁾ CEPI (Confederation of European Paper Industries), more information at: <http://www.cepi.org>.

⁽⁸⁾ EU-25, excluding Cyprus, Estonia, Lithuania, Luxembourg, Latvia, Malta and Slovenia.

STRUCTURAL PROFILE

The EU-25's pulp, paper and paper products (NACE Division 21) manufacturing sector generated EUR 46.2 billion value added in 2002, which equated to 2.6 % of industrial (NACE Sections C to E) value added. This figure could be split between the manufacture of articles of paper and paperboard (NACE Group 21.2), with 52.0% of sectoral value added and the manufacture of pulp, paper and paperboard (NACE Group 21.2) with the remaining 48.0 %. There were 738 600 persons employed in the EU-25's manufacture of pulp, paper and paper products sector in 2002, of which two thirds (66.6 %) worked in the manufacture of articles of paper and paper board.

In 2002, more than one fifth (21.1 %) of the EU-25's pulp, paper and paper products manufacturing value added came from Germany, while the United Kingdom accounted for 12.7 % and Italy an 10.2 % share. Finland was particularly specialised in pulp, paper and paper products manufacturing, as this sector contributed 13.5 % to industrial value added in 2002, some 4.6 percentage points higher than the 8.9 % share in Sweden, which in turn was more than double the proportion recorded in any of the other Member States for which data are available ⁽⁹⁾.

⁽⁹⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 62 500 per person employed in the EU-25's paper and paper products manufacturing sector in 2002, the fourth highest value among industrial NACE divisions. Average personnel costs were EUR 36 300 per employee, which was EUR 4 000 above the manufacturing (NACE Section D) average. Apparent labour productivity was the equivalent to 172.3 % of average personnel costs per employee, resulting in a wage adjusted labour productivity ratio for the paper and paper products manufacturing sector that was 32.0 percentage points higher than the manufacturing average (140.3 %).

EXTERNAL TRADE

The EU-25 ran a trade surplus with non-Community countries of EUR 3.8 billion for paper and paper products (CPA Division 21) in 2004, resulting from EUR 12.5 billion of exports and EUR 8.7 billion of imports. The EU-25 reported a trade surplus in 2004 for six of the seven CPA classes that compose CPA Division 21, the highest of which was EUR 5.5 billion for paper and paperboard (CPA Class 21.12). Pulp (CPA Class 21.11) was the only paper and paper products CPA class for which the EU-25 recorded a trade deficit (EUR 3.3 billion) in 2004.

Germany and the United Kingdom were the largest exporters of paper and paper products in 2004, accounting for 19.1 % and 16.1 % respectively of intra- and extra-EU trade combined; they were also the largest importers of these goods, with a 20.5 % and 13.0 % share of the EU total.

Table 6.10
Manufacture of pulp, paper and paper products (NACE Division 21)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Pulp, paper and paper products	46 160	2.6	739	2.1
Pulp, paper and paperboard	22 173	1.3	247	0.7
Articles of paper and paperboard	23 982	1.4	492	1.4

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 6.11
Production value of selected paper products (CPA Division 21), EU-25, 2003
(EUR million)

	Prodcom code	
Coated paper, for writing, printing, graphic purposes (excl. coated base, weight <= 150 g/m ²)	21.12.53.37	6 690.8
Newsprint in rolls or sheets	21.12.11.00	4 944.8
Graphic paper, paperboard: mechanical fibres <= 10%, 40 g/m ² <= weight <= 150 g/m ²	21.12.14.39	4 920.1
Light-weight coated paper for writing, printing, graphic purposes, m.f. > 10%	21.12.53.60	4 101.9
Graphic paper, paperboard: mechanical fibres > 50%, weight < 72 g/m ²	21.12.14.75	2 385.9
Uncoated semi-chemical fluting paper (corrugated medium); in rolls or sheets	21.12.24.00	1 875.8
Cartons; boxes and cases of corrugated paper or paperboard	21.21.13.00	18 712.5
Toilet paper	21.22.11.10	4 484.7
Envelopes of paper or paperboard	21.23.12.30	2 164.1
Self-adhesive printed labels of paper or paperboard	21.25.12.35	3 563.3

Source: Eurostat, PRODCOM

Table 6.12
Pulp, paper and paper products (CPA Division 21)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Pulp, paper and paper products	12 498	1.4	1.9	8 692	0.9	1.4	3 806	143.8
Pulp, paper and paperboard	9 735	1.1	1.4	7 562	0.8	1.1	2 173	128.7
Articles of paper and paperboard	2 686	0.3	0.5	1 129	0.1	0.2	1 557	237.9

Source: Eurostat, Comext

Table 6.13

**Manufacture of wood and of products of wood and cork, except furniture; articles of straw and plaiting materials (NACE Division 20)
Main indicators, 2002 (1)**

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	112 774	2 908	2 292	1 761	20 817	683	:	9 696	12 643	969	16 767	151	895	442	136	870	:
Production (EUR million) (2)	103 488	2 867	2 143	1 748	19 672	656	:	9 295	11 994	937	16 263	149	1 023	435	136	718	:
Value added at factor cost (EUR million) (3)	32 618	761	587	667	6 209	160	:	2 730	3 601	309	4 905	59	330	117	37	181	:
Gross operating surplus (EUR million) (3)	10 733	318	288	162	1 483	78	:	940	958	137	2 414	16	229	40	16	49	:
Purchases of goods and services (EUR million)	:	2 053	1 729	1 119	14 298	530	:	7 042	8 884	656	11 918	90	668	332	100	672	:
Gross investment in tangible goods (EUR million)	:	246	97	89	621	45	:	505	552	58	1 072	7	133	40	:	77	:
Number of persons employed (thousands)	1 225	14	75	15	165	17	:	110	95	6	180	3	31	28	1	34	:
Personnel costs (EUR million) (3)	21 885	444	298	506	4 726	82	:	1 790	2 642	171	2 491	43	102	77	21	133	:
App. labour productivity (EUR thous./pers. emp.) (3)	26.6	50.9	7.8	45.2	37.6	9.2	:	24.8	37.7	48.5	27.2	19.9	10.9	4.2	70.3	5.4	:
Average personnel costs (EUR thous./employee) (3)	21.3	33.5	6.4	34.9	31.2	4.8	:	18.7	28.8	27.7	22.0	:	3.4	2.9	40.0	4.9	:
Wage adjusted labour productivity (%) (3)	125.0	151.9	122.5	129.7	120.6	191.7	:	132.8	131.2	175.4	124.1	:	324.3	146.9	175.8	110.1	:
Gross operating rate (%) (3)	9.5	10.6	12.6	9.2	7.1	11.4	:	9.7	7.6	14.1	14.4	10.7	30.1	9.1	11.9	5.6	:
Investment per person employed (EUR thousand)	:	18.0	1.3	6.0	3.8	2.6	:	4.6	5.8	9.1	6.0	2.5	4.2	1.4	:	2.3	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	2 635	5 525	4 173	3 355	562	358	5 449	7 517	11 208	197	:	1 094	:	:	:	2 619	4 672
Production (EUR million)	2 512	5 287	4 039	3 249	541	326	5 303	7 338	10 510	180	:	1 060	:	:	:	2 483	4 158
Value added at factor cost (EUR million)	881	1 720	1 183	764	154	71	1 251	1 924	3 825	29	:	257	:	:	:	766	1 913
Gross operating surplus (EUR million)	244	640	195	276	21	20	384	608	1 238	8	:	132	:	:	:	187	293
Purchases of goods and services (EUR million)	1 755	3 919	3 054	2 636	390	289	4 252	5 646	7 352	178	:	955	:	:	:	1 891	2 240
Gross investment in tangible goods (EUR million)	94	252	201	182	22	25	282	376	380	18	:	158	:	:	:	98	:
Number of persons employed (thousands)	21	38	135	51	13	13	28	42	94	17	:	90	:	:	:	15	37
Personnel costs (EUR million)	637	1 080	989	488	133	52	881	1 316	2 587	21	:	125	:	:	:	580	1 620
App. labour productivity (EUR thous./pers. emp.)	41.8	45.3	8.8	14.9	12.1	5.3	44.3	45.7	40.9	1.7	:	2.9	:	:	:	52.0	52.1
Average personnel costs (EUR thous./employee)	34.2	30.9	9.9	10.6	11.5	3.9	32.0	34.6	29.9	1.4	:	1.4	:	:	:	39.9	:
Wage adjusted labour productivity (%)	122.2	146.3	88.7	140.0	105.4	136.3	138.5	132.0	136.9	116.2	:	197.9	:	:	:	130.5	:
Gross operating rate (%)	9.3	11.6	4.7	8.2	3.7	5.4	7.0	8.1	11.0	4.0	:	12.1	:	:	:	7.1	6.3
Investment per person employed (EUR thousand)	4.4	6.6	1.5	3.5	1.7	1.9	10.0	8.9	4.1	1.1	:	1.8	:	:	:	6.6	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 6.14

**Manufacture of pulp, paper and paper products (NACE Division 21)
Main indicators, 2002 (1)**

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	158 094	4 539	1 556	1 557	32 722	101	:	11 213	20 257	835	19 750	69	67	97	149	987	19
Production (EUR million) (2)	149 986	3 884	1 525	1 526	30 480	100	:	10 844	18 681	805	18 789	65	68	96	149	896	19
Value added at factor cost (EUR million) (3)	46 160	1 198	383	550	9 717	29	:	3 238	5 211	334	4 720	25	24	21	26	253	8
Gross operating surplus (EUR million) (3)	20 007	507	217	174	3 243	17	:	1 617	1 689	154	2 249	12	17	8	15	137	3
Purchases of goods and services (EUR million)	:	3 287	1 197	1 030	22 708	71	:	8 148	14 703	499	15 142	44	49	76	121	752	11
Gross investment in tangible goods (EUR million)	:	471	149	79	1 628	5	:	743	922	36	1 136	4	7	9	:	56	0
Number of persons employed (thousands)	739	14	20	8	153	2	:	55	91	5	82	1	2	3	0	12	0
Personnel costs (EUR million) (3)	26 153	692	166	376	6 474	12	:	1 621	3 523	180	2 471	13	7	13	12	116	5
App. labour productivity (EUR thous./pers. emp.) (3)	62.5	76.1	18.7	64.8	63.6	16.1	:	58.5	57.5	68.1	57.6	29.9	14.0	7.9	107.1	20.9	22.6
Average personnel costs (EUR thous./employee) (3)	36.3	44.8	8.4	44.5	42.8	6.8	:	29.9	38.9	36.9	33.0	:	3.9	5.2	47.8	10.0	14.2
Wage adjusted labour productivity (%) (3)	172.3	169.8	223.0	145.6	148.7	237.9	:	195.9	147.8	184.4	174.8	:	357.5	153.1	224.2	208.7	159.1
Gross operating rate (%) (3)	12.7	10.6	13.9	11.2	9.9	16.7	:	14.4	8.3	18.5	11.4	17.4	27.9	7.8	9.8	13.9	15.5
Investment per person employed (EUR thousand)	:	32.7	7.3	9.3	10.7	2.7	:	13.4	10.2	7.4	13.9	4.1	4.0	3.3	:	4.6	0.1
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	5 823	5 588	3 021	2 320	628	825	14 453	12 209	18 348	202	:	469	:	:	:	2 150	3 246
Production (EUR million)	5 457	4 960	2 951	2 346	617	767	13 861	12 035	17 654	192	:	450	:	:	:	1 941	3 300
Value added at factor cost (EUR million)	1 724	1 756	894	818	134	225	4 368	4 378	5 877	32	:	100	:	:	:	633	1 168
Gross operating surplus (EUR million)	666	923	349	530	40	159	2 645	2 471	2 340	5	:	52	:	:	:	207	370
Purchases of goods and services (EUR million)	4 109	3 906	2 218	1 547	455	608	10 447	8 135	12 396	173	:	396	:	:	:	1 661	2 130
Gross investment in tangible goods (EUR million)	369	475	234	142	54	75	690	768	707	54	:	62	:	:	:	71	:
Number of persons employed (thousands)	25	18	38	13	6	9	39	41	93	13	:	18	:	:	:	8	15
Personnel costs (EUR million)	1 058	833	545	288	94	66	1 959	1 907	3 537	28	:	48	:	:	:	426	798
App. labour productivity (EUR thous./pers. emp.)	69.4	99.1	23.8	63.3	21.8	24.2	110.7	107.7	63.5	2.5	:	5.5	:	:	:	77.7	80.5
Average personnel costs (EUR thous./employee)	43.2	47.1	16.4	22.4	15.5	7.1	49.7	47.0	38.7	2.2	:	2.7	:	:	:	52.4	:
Wage adjusted labour productivity (%)	160.8	210.1	144.9	282.2	140.0	342.5	222.8	228.9	164.0	114.5	:	203.4	:	:	:	148.5	:
Gross operating rate (%)	11.4	16.5	11.5	22.9	6.4	19.3	18.3	20.2	12.8	2.4	:	11.2	:	:	:	9.6	11.4
Investment per person employed (EUR thousand)	14.8	26.8	6.2	11.0	8.8	8.1	17.5	18.9	7.6	4.3	:	3.4	:	:	:	8.8	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Chemicals, rubber and plastics



The chemicals, rubber and plastics sector underpins many industrial sectors of the economy. The main downstream markets include industrial consumption in the textiles, clothing, printing, mechanical, electrical and automotive industries. Chemicals are also consumed within the agricultural, construction and service sectors of the economy, as well as in the form of consumer products.

The main raw materials used within the chemicals, rubber and plastics sector are those related to the mineral oil industry. While oil products, natural gas and electricity are used as fuel, products derived from mineral oil (such as naphtha or gas oil) are also important feedstock used in the production of basic chemicals, synthetic rubber and plastics. Given this high reliance on energy inputs, the price and mix of energy products are key factors for the competitiveness of many chemical, rubber and plastic activities (see Subchapter 2.1 for information on crude oil prices). The chemicals, rubber and plastics sector also uses a range of natural or processed materials as inputs into its production chain, such as metals, minerals and agricultural raw materials (natural rubber, sugar, starch, fats), the price of which may also vary considerably on world commodity markets.

The chemicals, rubber and plastics sector is both capital and research intensive. According to research and development statistics, it is estimated that the chemicals, rubber and plastics sector (NACE Subsections DG and DH) accounted for 25.4 % of EU's ⁽¹⁾ business enterprise research and development expenditure within the industrial (NACE Sections C to E) sector in 2003, much of which is devoted to pharmaceuticals. Intellectual property rights are extremely important, as manufacturers within a knowledge-intensive industry operating in a global market often seek protection for their intellectual assets in order to embark on what are often costly research projects.

According to CEFIC, the European chemicals subsector has reduced energy consumption per unit of production volume by 55 % between 1975 and 2003 and emissions of greenhouse gases per unit of production volume by almost 30 % between 1992 and 2002. Improved protection of human health and the environment from the risk of chemicals is the main objective of the proposed REACH system (see Box 7.1).

⁽¹⁾ Belgium, Malta, Austria and Slovakia, 2002; Denmark, Estonia, Greece, France, Latvia, Italy, Luxembourg, Poland and Portugal, not available.

The manufacture of chemicals, rubber and plastics are covered by NACE Subsections DG and DH; the former also includes the manufacture of man-made fibres.

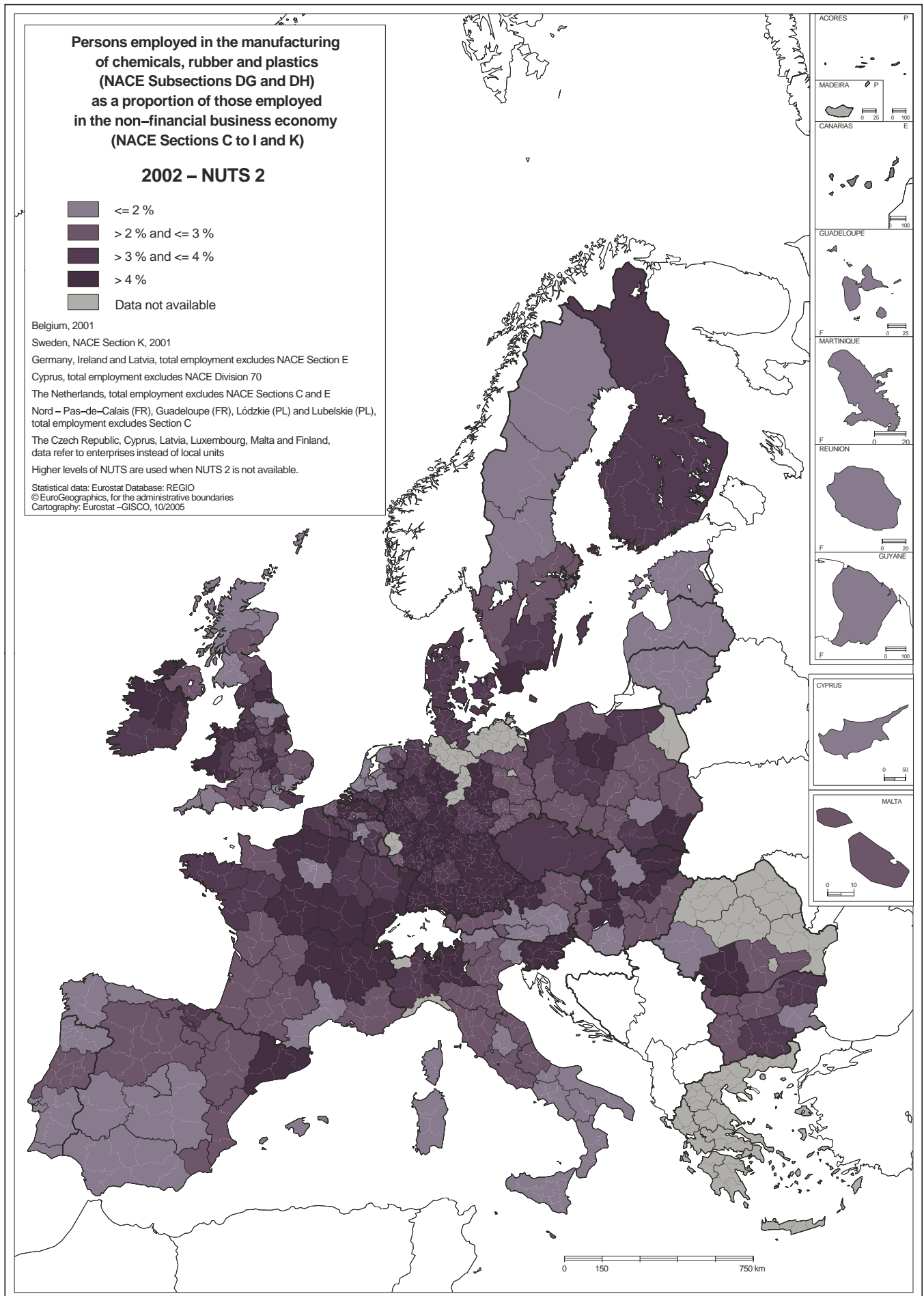
NACE

- 24: manufacture of chemicals and chemical products;
- 24.1: manufacture of basic chemicals;
- 24.2: manufacture of pesticides and other agro-chemical products;
- 24.3: manufacture of paints, varnishes and similar coatings, printing ink and mastics;
- 24.4: manufacture of pharmaceuticals, medicinal chemicals and botanical products;
- 24.5: manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations;
- 24.6: manufacture of other chemical products;
- 24.7: manufacture of man-made fibres;
- 25: manufacture of rubber and plastic products;
- 25.1: manufacture of rubber products;
- 25.2: manufacture of plastic products.

Box 7.1: the REACH system (Registration, Evaluation and Authorisation of CHemicals)

On 29 October 2003, the European Commission adopted a proposal for a new EU regulatory framework for chemicals, COM (2003) 644. REACH requires that any enterprise that manufactures or imports more than one tonne of a chemical substance registers it in a central database. The aim of the Regulation is to improve the protection of human health and the environment, by giving greater responsibility to industry to manage the risks from chemicals, while at the same time providing safety information on substances being used further down the production chain. The main elements of the REACH system are to provide evaluation and authorisation of chemicals, while striking a balance between environmental, economic and social priorities. The 30 000 existing chemical substances will be processed on a phased basis over a period of 11 years (ending 2012) starting with those marketed in the highest volumes. While this will require an additional effort from industry in terms of costs and manpower, REACH will reduce testing requirements for new substances to encourage innovation. Registration will require producers and importers to undertake tests on the chemicals they produce and provide this information to a central authority.

Following extensive consultation, the text is currently in the process of being considered by the European Parliament and the Council of the EU for adoption under the so-called co-decision procedure.



A large number of multinational enterprise groups exist within the chemicals sector. In 2003, 16 of the world's 30 largest manufacturers of chemicals had their headquarters in the EU-25 according to CEFIC (see Table 7.1). Unsurprisingly a high proportion of global chemical sales were accounted for by the three Triad members. CEFIC (the European Chemical Industry Council, more information at <http://www.cefic.org>) estimate that the EU-25 accounted for approximately one third of global chemical sales in 2004 (see Figure 7.1).

STRUCTURAL PROFILE

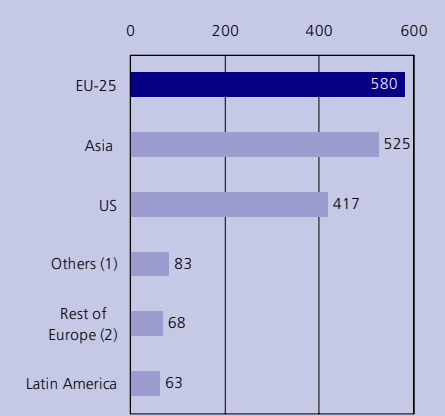
The EU-25 chemicals, rubber and plastics sector (NACE Subsections DG and DH) accounted for 13.8 % of industrial (NACE Sections C to E) value added in 2002 and 9.9 % of the industrial workforce in 2001. EU-25 value added was EUR 243.6 billion in 2002, with chemicals (NACE Subsection DG) accounting for just over 70 %, plastics (NACE Group 25.2) 22.9 %, and rubber (NACE Group 25.1) the remaining 6.9 %. The most important contribution (in terms of added value) from the seven NACE groups that make-up the chemicals sector was made by basic chemicals (NACE Group 24.1) and pharmaceuticals (NACE Group 24.4). Both of these activities were somewhat larger than the plastics sector, accounting for 26.7 % and 23.7 % of value added within the EU-25's chemicals, rubber and plastics total in 2002.

Table 7.1
Top global enterprises within the chemicals industry (based on worldwide sales), 2003 (EUR million)

BASF	EU-25	33 361
Dow Chemical	US	28 906
Bayer	EU-25	28 567
DuPont	US	23 913
Shell	EU-25	18 440
ExxonMobil	US	17 884
Atofina	EU-25	17 850
Mitsubishi Chemical	JP	14 709
BP	EU-25	13 715
Akzo Nobel	EU-25	13 051

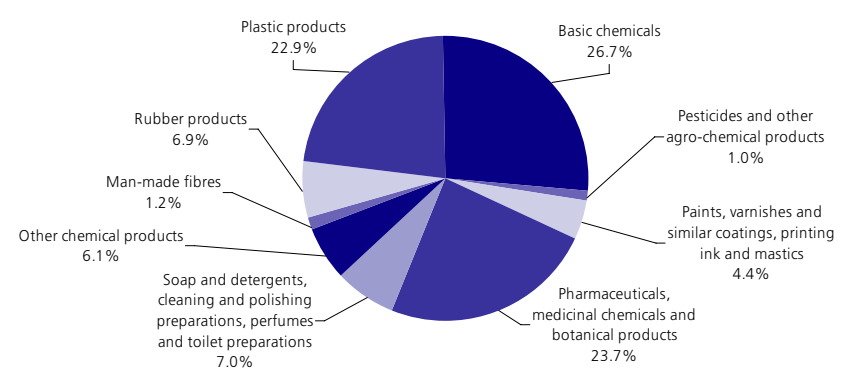
Source: CEFIC, <http://www.cefic.org>; list reproduced with the kind permission of Reed Business Publishing - Chemical Insight, adjusted by using average rather than year end exchange rates and completed with data from company annual reports

Figure 7.1
World chemical sales, 2004 (EUR billion)



(1) Canada, Mexico, Africa and Oceania.
 (2) Other central and eastern European countries, excluding EU-25.
 Source: CEFIC, <http://www.cefic.org>

Figure 7.2
Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Breakdown of sectoral value added, EU-25, 2002 (%)



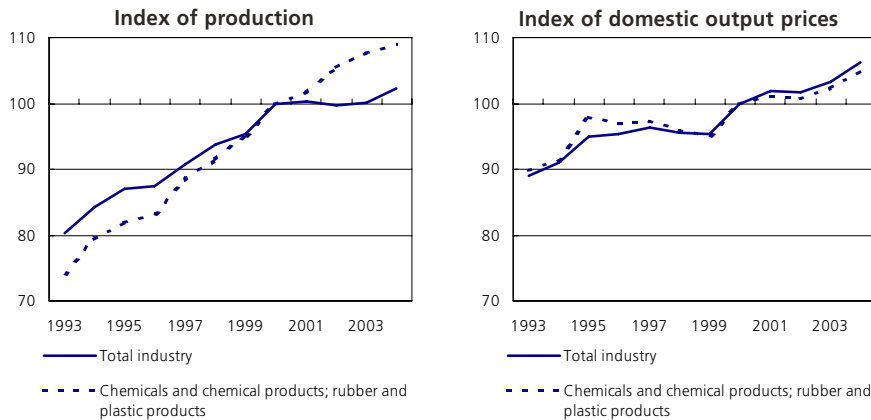
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 7.2
Manufacture of chemicals and chemical products; manufacture of rubber and plastic products (NACE Subsections DG and DH)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Chemicals and chemical products; rubber and plastic products (1)	243 603	13.8	3 584	9.9
Chemicals and chemical products (1)	170 555	9.7	1 929	5.3
Basic chemicals; pesticides and other agro-chemical products	67 453	3.8	641	1.8
Pharmaceuticals, medicinal chemicals and botanical products	57 726	3.3	583	1.6
Miscellaneous chemical products (1)	42 395	2.4	649	1.8
Man-made fibres	2 977	0.2	57	0.2
Rubber products	16 825	1.0	359	1.0
Plastic products	55 729	3.2	1 316	3.7

(1) Number of persons employed and employment share, 2001.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 7.3
Chemicals and chemical products; rubber and plastic products
(NACE Subsections DG and DH)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Germany was the leading producer of chemicals, rubber and plastics, with a 24.8 % share of EU-25 value added in 2002; almost twice the proportion accounted for by the United Kingdom (15.3 %) or France (14.6 %). While the chemicals, rubber and plastics sector accounted for 13.8 % of the EU-25's industrial value added, its share was considerably higher in Belgium (21.8 %, 2001) and Luxembourg (19.6 %) ⁽²⁾. However, based on the limited information available, Ireland was likely the most specialised Member State in this sector, with chemicals, rubber and plastics generating 46.3 % of Irish manufacturing (NACE Section D only) value added, compared with an EU-25 average of 15.9 % ⁽³⁾.

⁽²⁾ Belgium and Latvia, 2001; Greece; Ireland and Poland, not available.

⁽³⁾ The relatively high proportion of Irish manufacturing value added that is accounted for by the chemicals, plastics and rubber sector may reflect foreign ownership of enterprises, outsourcing of activities, and accounting practices of multinational enterprises. Note that this observation applies throughout this chapter, where Ireland consistently reports very high levels for value added and related indicators (apparent labour productivity, the wage adjusted labour productivity ratio, the gross operating surplus and the gross operating rate).

Over the years 1993 to 2004, the index of production for the EU-25's chemicals, rubber and plastics activities grew, on average, by 1.3 percentage points more per annum than the index for total industry, as output expanded by 3.6 % per annum. Year on year growth rates for chemicals, rubber and plastics activities outperformed those for total industry throughout the period 1993 to 2003, with the largest differences being recorded in 1997, 1999 and 2002 when the production index for chemicals, rubber and plastics activities grew by at least 2 percentage points more than the industrial average. However, perhaps in reaction to crude oil price movements, output growth for chemicals, rubber and plastics was inferior to the industrial average in 2004 (the first time in more than a decade that this was the case). The slowdown could be attributed to the performance of basic chemicals (NACE Group 24.1), where output fell by 0.9 % in 2004 (the only one of the nine NACE groups covered by this chapter where production declined in 2004).

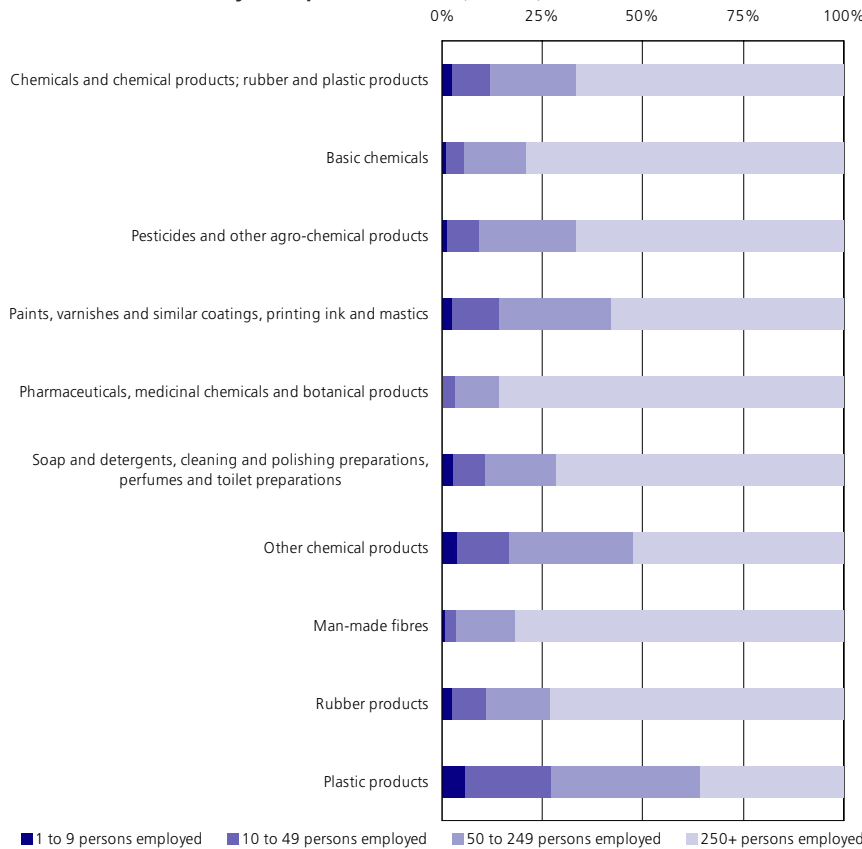
At the NACE group level of detail, the most rapid expansion in output between 1993 and 2004 was a 5.7 % per annum increase recorded for the EU-25's pharmaceuticals activity (NACE Group 24.4), while growth of 4.6 % per annum was registered for basic chemicals (NACE Group 24.1). The only activity to contract over the period considered was the manufacture of man-made fibres (NACE Group 24.7), where production declined by an average of 1.8 % per annum.

Domestic output prices for chemicals, plastics and rubber rose by 1.4 % per annum during the period 1993 to 2004 (compared with an industrial average of 1.6 %). The influence of rising oil prices was evident in the latest data for 2004, as the price of basic chemicals rose by 6.2 % compared with a year before. However, the overall price of chemicals, rubber and plastics rose by 2.5 % in 2004, compared with an industrial average of 2.8 %.

The index of employment for the EU-25's chemicals activities (NACE Subsection DG) fell on average by 1.2 % per annum between 1995 and 2004, which was the same rate as for the whole of the industrial economy. Rubber and plastics activities (NACE Subsection DH) were one of only a few industrial activities (at the NACE subsection level) to report a rising employment index between 1995 and 2004, with average gains of 0.8 % per annum.

Micro and small enterprises (employing between 1 and 49 persons) accounted for 12.0 % of the EU-25's value added within the chemicals, rubber and plastics sector in 2001, well below their average contribution of 21.9 % to the whole of the industrial economy. Large enterprises (with 250 or more persons employed) accounted for two thirds (66.6 %) of the added value within the EU-25's chemicals, rubber and plastics sector, almost 10 percentage points above the industrial average (57.2 %). The enterprise size structure differed considerably between activities, as micro and small enterprises together contributed less than 6.0 % of the value added generated in the three activities of basic chemicals, pharmaceuticals, and man-made fibres in 2001, while on the other hand, the plastics activity was the only one of the nine NACE groups covered by this chapter where micro and small enterprises together contributed a higher proportion (27.2 %) of value added than the EU-25 industrial average. The plastics activity also stood out as it posted the highest contribution (37.3 %) to value added from medium-sized enterprises (employing between 50 and 249 persons) among the nine NACE groups. The dominance of large enterprises was particularly pronounced in 2001 within the EU-25's pharmaceuticals (85.7 % of value added), man-made fibres (81.8 %), and basic chemicals (78.9 %) activities.

Figure 7.4
Chemicals and chemical products; rubber and plastic products
(NACE Subsections DG and DH)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

EMPLOYMENT CHARACTERISTICS

The employment characteristics of the chemicals, rubber and plastics sector were relatively similar to industrial averages, as 6.6 % of the workforce was engaged on a part-time basis in 2004 (compared with 7.3 % for total industry). There was a somewhat higher propensity to employ female workers (36.7 % of the workforce) within the EU-25's chemicals subsector in 2004, when compared with the corresponding ratio for the rubber and plastics subsector (27.5 %); again both of these figures were relatively close to the industrial average (29.0 %).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the chemicals, rubber and plastics sector was relatively high as each person employed in the EU-25 generated an average of EUR 65 200 of added value in 2001. Fresher data for 2002 shows that this was particularly true for basic chemicals (EUR 106 000 per person employed), pharmaceuticals (EUR 99 000) and the relatively small activity of agro-chemical products (NACE Group 24.2, EUR 88 000). Apparent labour productivity for the EU-25's rubber and plastics sector was EUR 43 300 per person employed in 2002, some 11.7 % below the industrial average.

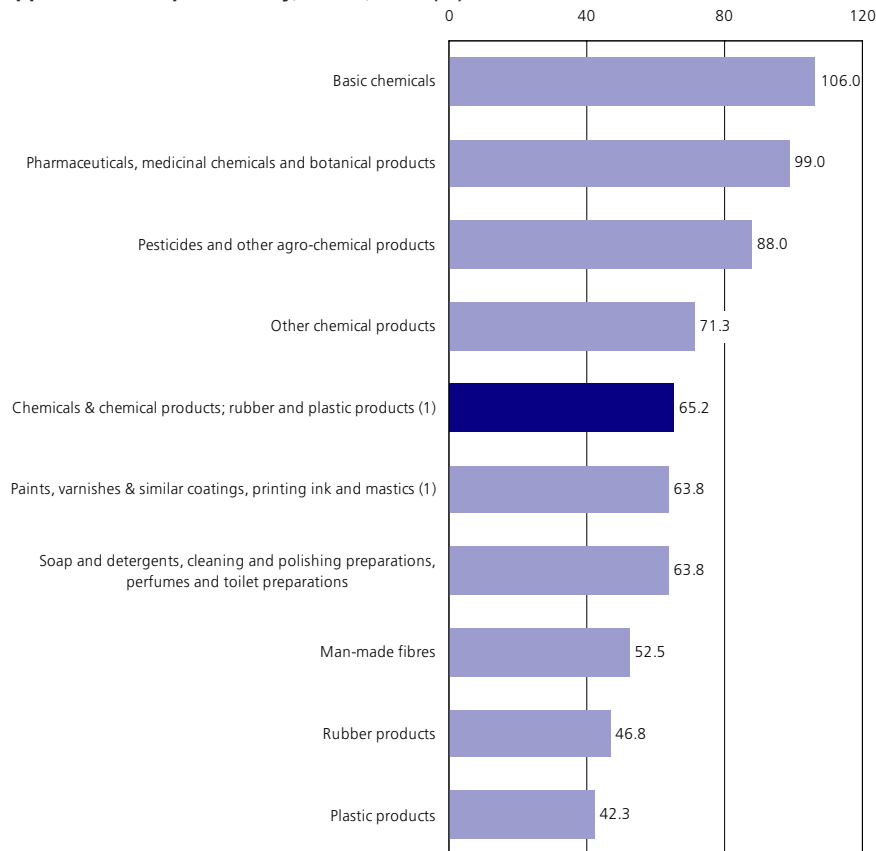
With the exception of the man-made fibres sector (+13.3 %), average personnel costs per employee for chemical activities in the EU-25 ⁽⁴⁾ were generally 20 % to 60 % higher than the manufacturing (NACE Section D) average in 2002; this difference rose to 79.9 % higher for the agro-chemicals activity. In contrast, average personnel costs were much closer to the manufacturing average for rubber and plastics: for the EU-25's rubber activity they were 4.0 % higher, while the plastics activity (-8.4 %) was the only NACE group within this chapter to report average personnel costs below the manufacturing average in 2002.

There was a fairly wide divergence between the gross operating rates (a measure of profitability) recorded for the two NACE subsections that make-up this chapter: with the gross operating surplus of the EU-25's chemicals sector equivalent to 13.4 % of turnover in 2002, while the rate for rubber and plastics was 10.4 % (much nearer the industrial average of 10.0 %).

⁽⁴⁾ Paints and printing inks (NACE Group 24.3), 2001.

Figure 7.5

**Chemicals and chemical products; rubber and plastic products
(NACE Subsections DG and DH)
Apparent labour productivity, EU-25, 2002 (%)**



(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EXTERNAL TRADE

Chemical, rubber and plastics markets are generally quite open. EU-25 exporters may however be confronted with the protection of intellectual property rights and non-tariff obstacles, including, testing, registration, licensing and certification procedures.

EU-25 exports of chemical, rubber and plastic products (CPA Subsections DG and DH) were valued at EUR 165.9 billion in 2004, which was equivalent to 18.4 % of all industrial exports, placing these products among the three largest EU-25 export markets at the CPA subsection level (alongside electrical and optical equipment, and transport equipment).

EU-25 imports of chemical, rubber and plastic products were valued at EUR 104.3 billion, which equated to 11.0 % of all industrial imports in 2004. As a result, the EU-25's trade surplus for chemical, rubber and plastic products was EUR 61.5 billion (the third highest surplus among industrial goods at the CPA subsection level).

Germany had by far the highest level of chemical, rubber and plastic product exports in 2004, valued at EUR 106.3 billion, or 21.3 % of the EU total (intra and extra-EU trade), with Belgium the second largest exporter (EUR 74.5 billion), followed by France, the United Kingdom and the Netherlands. In relative terms, Ireland (45.3 %) and Belgium (30.2 %) reported that chemicals, rubber and plastics accounted for a considerably higher share of their exported industrial goods than the EU average (16.7 %).

Table 7.3

**Chemicals, chemical products and man-made fibres; rubber and plastic products (CPA Subsections DG and DH)
External trade, EU-25, 2004**

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Chemicals, chemical products and man-made fibres; rubber and plastic products	165 878	18.4	16.6	104 329	11.0	10.7	61 549	159.0
Basic chemicals	47 855	5.3	5.2	35 341	3.7	3.9	12 513	135.4
Pesticides and other agro-chemical products	2 365	0.3	0.3	959	0.1	0.1	1 406	246.5
Paints, varnishes and similar coatings, printing ink and mastics	4 636	0.5	0.5	1 180	0.1	0.1	3 456	392.8
Pharmaceuticals, medicinal chemicals and botanical products	56 004	6.2	4.9	33 410	3.5	2.6	22 594	167.6
Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations	11 448	1.3	1.1	3 107	0.3	0.3	8 341	368.5
Other chemical products	18 053	2.0	2.0	10 992	1.2	1.4	7 061	164.2
Man-made fibres	1 248	0.1	0.1	1 759	0.2	0.3	-511	70.9
Rubber products	6 521	0.7	0.7	6 196	0.7	0.7	325	105.2
Plastic products	14 920	1.7	1.5	10 778	1.1	1.2	4 142	138.4

Source: Eurostat, Comext

7.1: BASIC INDUSTRIAL CHEMICALS (INCLUDING PETROCHEMICALS), PESTICIDES AND AGROCHEMICALS

The manufacture of basic chemicals (NACE Group 24.1) covers the manufacture of petrochemicals, industrial gases, dyes, pigments and fertilisers, as well as primary forms of plastics and synthetic rubber. This subchapter also includes information on NACE Group 24.2, which comprises the manufacture of plant growth regulators, disinfectants and products to fight pests and diseases. These two NACE groups are collectively referred to as basic and agro-chemical products.

Basic chemical products that are produced within this sector are often used as building blocks in downstream industries, as basic chemicals (see Table 7.4) such as ethylene, propylene, butadiene and benzene are transformed into products as diverse as CDs, running shoes, and pharmaceuticals. The production process for most basic chemicals begins with cracking, a distillation process to separate crude oil into lighter groups of hydrocarbons. As such, recent increases in the price of crude oil (see Subchapter 2.1) have changed cost structures for many producers within this sector. Production facilities are often located near to coasts, as the majority of feedstock deliveries tend to be made by ship and/or pipeline. There are two main factors that influence the cost structure of the agro-chemicals sector: the price of natural gas (an essential feedstock in the production of ammonia), and transport costs (as fertilisers tend to be bulky products). The European market for fertilisers and agro-chemicals is influenced by a range of factors, including: climatic conditions, disease pressure, recognition of GM crops, and the reform of the CAP. Eurostat's environmental statistics provide information on the consumption of fertilisers (in terms of tonnes of active ingredients) that show that some 15.6 million tonnes of commercial fertilisers were consumed by agriculture in the EU-15 in 2001, while sales of pesticides reached 327 000 tonnes; fresher data (in terms of sales value) are provided in Table 7.5. Regulation (EC) No 2003/2003 of the European Parliament and of the Council of

Table 7.4
World petrochemical production, 2004 (thousand tonnes)

	Western Europe	Asia	North America	South America
Ethylene	21 408	18 406	31 772	3 723
Propylene	15 123	12 969	16 711	1 852
Benzene	8 334	10 024	8 769	1 131

Source: International Petrochemical Information Forum, Association of Petrochemical Producers in Europe (Ape), <http://www.petrochemistry.net>

Table 7.5
Western European market for agrochemicals (in terms of turnover), 2004 (EUR million) (1)

Fungicides	2 592
Herbicides	2 831
Insecticides	1 044
Others	302
Total	6 769

(1) EU-25 and EFTA.
Source: ECPA, <http://www.ecpa.be>

13 October 2003 aims to simplify Community legislation by consolidating 18 directives on fertilisers. The Regulation sets out provisions for the scope, declaration and identification of fertiliser types, the content of different fertilising elements, as well as the harmonisation of labelling and packaging.

STRUCTURAL PROFILE

The manufacture of basic and agro-chemical products (NACE Groups 24.1 and 24.2) created EUR 67.5 billion of added value in 2002, which equated to 3.8 % of the industrial (NACE Sections C to E) total, or 39.5 % of the chemicals (NACE Subsection DG) total. As such, this was the largest of the chemical subsectors in terms of value added. The basic and agro-chemical products sector employed 641 200 persons within the EU-25 in 2002, equating to a 1.8 % share of the industrial total, less than half its value added share.

A breakdown of activity using the main structural variables shows that the manufacture of basic chemicals was by far the larger of the two NACE groups covered within this subchapter, for example, accounting for 96.3 % of EU-25 value added in 2002.

Germany was the principal producer of basic and agro-chemical products, with a 29.5 % share of EU-25 value added in 2002. Germany was also relatively specialised in the manufacture of basic chemicals (NACE Group 24.1), although Ireland, Belgium and the Netherlands were the most specialised, with Ireland accounting for 19.4 % of the EU-25's value added⁽⁵⁾. Together these were the only four Member States that were relatively specialised in the manufacture of basic chemicals (with this subsector contributing more to industrial value added in these Member States than was the case in the EU-25 as a whole). Almost half of the EU-25's value added for the agro-chemicals subsector (NACE Group 24.2) was contributed by the United Kingdom (26.9 %) and France (21.2 %) in 2002⁽⁶⁾.

⁽⁵⁾ Greece, Luxembourg and Malta, not available.

⁽⁶⁾ Ireland and Slovakia, 2001; Belgium, Denmark, Estonia, Greece, Cyprus, Latvia, Lithuania, Malta, Poland, Slovenia, Finland and Sweden, not available.

Table 7.6
Manufacture of basic chemicals; manufacture of pesticides and other agro-chemical products (NACE Groups 24.1 and 24.2)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Basic chemicals; pesticides and other agro-chemical products	67 453	3.8	641	1.8
Basic chemicals	64 928	3.7	613	1.7
Pesticides and other agro-chemical products	2 525	0.1	29	0.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

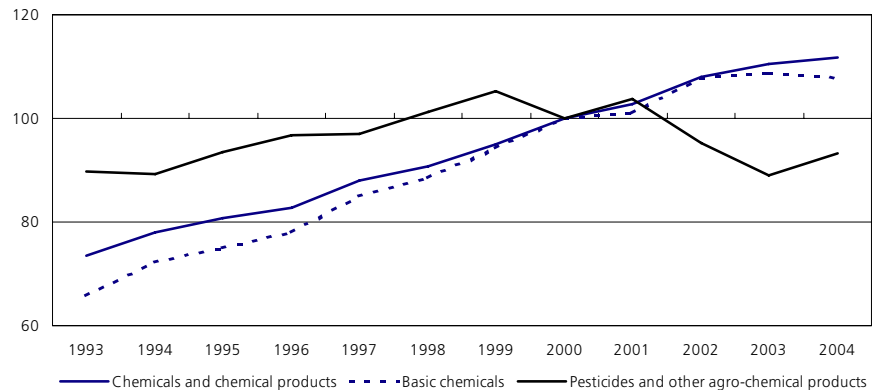
During the period 1993 to 2004, the index of production for basic chemicals (NACE Group 24.1) generally rose at a faster pace than the average for the whole of the chemicals sector, although exceptions were observed in 1993, and more recently in 2001, 2003 and 2004. Between 2000 and 2004, the fastest growth in EU-25 activity was registered for synthetic rubber in primary forms (NACE Class 24.17) and industrial gases (NACE Class 24.11), while the production index of fertilisers and nitrogen compounds (NACE Class 24.15) and plastics in primary forms (NACE Class 24.16) fell. The EU-25 index of production for agro-chemicals (NACE Group 24.2) also followed a downward path between 2000 and 2004, losing an average of 2.4 % per annum. The evolution of domestic output prices for basic chemicals closely followed the evolution of oil prices (see Subchapter 2.1), as EU-25 prices rose by 16.2 % in 1995, 15.5 % in 2000, and 6.2 % in 2004 - all years of high increases in oil prices. The basic chemicals subsector is dominated by large enterprises (with 250 or more persons employed), which created 78.9 % of the EU-25's value added in 2001.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's basic and agro-chemicals sector (NACE Groups 24.1 and 24.2) was EUR 105 200 per person employed in 2002. EU-25 apparent labour productivity was higher for basic chemicals (EUR 106 000) than for agro-chemicals (EUR 88 000), making the basic chemicals subsector one of the ten most productive sectors (at the NACE group level) within the non-financial business economy (subject to data availability). This was particularly true in Ireland, Portugal, the Netherlands, Hungary and Spain ⁽⁷⁾, where apparent labour productivity ratios for basic chemicals were more than double the national industrial average.

⁽⁷⁾ Belgium, Cyprus and Latvia, 2001; Greece, Luxembourg and Malta, not available.

Figure 7.6
Manufacture of basic chemicals; manufacture of pesticides and other agro-chemical products (NACE Groups 24.1 and 24.2)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

EU-25 personnel costs for basic chemicals averaged EUR 50 600 per employee in 2002, while the corresponding ratio for agro-chemicals was EUR 58 100, both above the manufacturing (NACE Section D) average of EUR 32 300.

The gross operating rate (defined as the gross operating surplus in relation to turnover) for the EU-25's basic and agro-chemicals sector stood at 13.5 % in 2002, well above the industrial average of 10.0 %; and the second highest rate of profitability among chemicals, rubber and plastics sectors, behind pharmaceuticals. The gross operating rate for basic and agro-chemicals was inflated by the performance of Ireland, where the operating rate was 47.1 %.

EXTERNAL TRADE

The EU-25 exported to non-Community countries EUR 50.2 billion of basic and agro-chemicals (CPA Groups 24.1 and 24.2) in 2004, representing 34.8 % of all chemical exports. EU-25 imports were valued at EUR 36.3 billion (41.6 % of all chemical imports).

Other basic organic chemicals (CPA Class 24.14) were by far the most important product category covered by this subchapter, accounting for 53.1 % of EU-25 imports and 56.2 % of EU-25 exports of basic and agro-chemicals. The only other CPA class to account for a double-digit share of exports or imports was plastics in primary forms (CPA Class 24.16), with a 25.1 % share of exports and 19.2 % share of imports.

Belgium had the highest level of basic and agro-chemical exports in 2004, with intra- and extra-EU exports valued at EUR 31.4 billion (20.5 % of the EU total). This was 0.4 percentage points above the German share, while the Netherlands (12.8 %) and France (11.1 %) were the only other Member States to account for more than a 10 % share of EU exports. In relative terms, Belgium and Ireland were the most specialised Member States in exporting basic and agro-chemicals.

Table 7.7
Basic chemicals; pesticides and other agro-chemical products (CPA Groups 24.1 and 24.2)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Basic chemicals; pesticides and other agro-chemical products	50 219	5.6	5.5	36 300	3.8	4.0	13 919	138.3
Basic chemicals	47 855	5.3	5.2	35 341	3.7	3.9	12 513	135.4
Pesticides and other agro-chemical products	2 365	0.3	0.3	959	0.1	0.1	1 406	246.5

Source: Eurostat, Comext

7.2: PHARMACEUTICALS

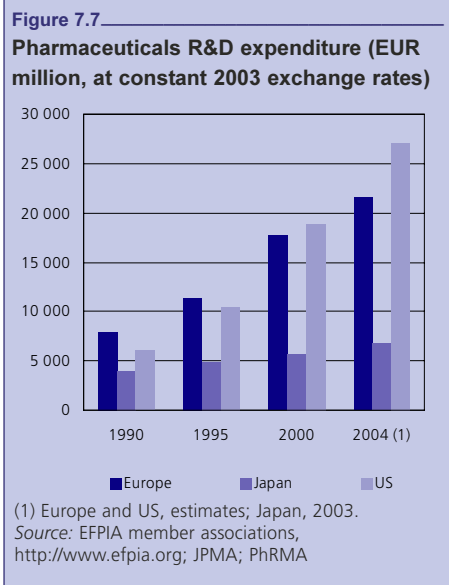
The manufacture of pharmaceuticals includes the manufacture of basic pharmaceutical products and pharmaceutical preparations, such as medicaments, vaccines, homeopathic preparations, dental fillings, bandages and dressings.

Enterprise policy measures aim to create an industrial environment that encourages innovation and provides adequate protection for intellectual property rights. EFPIA (the European Federation of Pharmaceutical Industries) state that out of 10 000 pharmaceutical substances that are synthesised in laboratories, only one or two will successfully become marketable medicines. The pharmaceuticals sector in Europe invested about EUR 21.5 billion in research and development in 2004 (see Figure 7.7) according to EFPIA (European Federation of Pharmaceutical Industries Associations, more information at <http://www.efpia.org>).

Recently many governments, including European ones, have turned more to purchasing generic drugs in an attempt to lower their spending on healthcare. According to EFPIA, the share of generics in EU (8) pharmaceutical markets ranged from a high of 26.8 % in Germany and 21.1 % in Denmark and the Netherlands, to less than 6 % in Belgium, Spain, France and Portugal in 2003.

The pharmaceuticals sector has a plethora of regulatory procedures, the overall objectives of which may be summarised under three headings: to guarantee a high level of public health protection; to complete the internal market in pharmaceutical products; and to rationalise and simplify the medicines authorisation system. Regulation (EC) No 726/2004 of the European Parliament and of the Council of 31 March 2004 lays down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use. On 29 September 2004, the European Commission adopted a proposal for a Regulation of the Council and of the Parliament on medicinal products for paediatric use, which aims to address a situation whereby more than 50 % of the medicines that are administered to children are not specifically tested or authorised for such a use.

(8) EU-15 excluding Italy, Luxembourg and Finland; French data relate only to substances on an official list of medicines.



STRUCTURAL PROFILE

The pharmaceuticals sector (NACE Group 24.4) employed 582 800 persons and created EUR 57.7 billion of added value in 2002, which equated to 33.8 % of chemicals (NACE Subsection DG) value added. France (18.5 %), the United Kingdom (18.2 %) and Germany (16.3 %) were the largest EU-25 producers of pharmaceuticals in terms of value added in 2002. France and the United Kingdom were also relatively specialised in producing pharmaceuticals, although the highest relative industrial specialisation ratios for pharmaceuticals were recorded in Ireland, Belgium (2001) and Sweden, contributing 5.3 %, 5.8 % and 6.6 % to EU-25 value added (9).

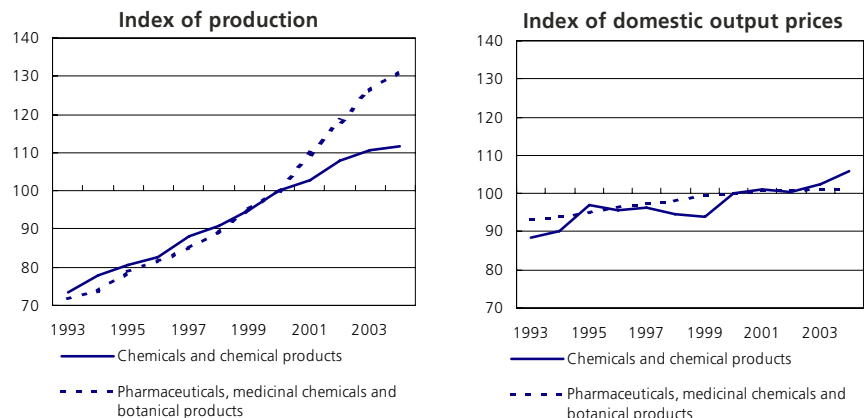
(9) Belgium, Cyprus, Latvia and Slovakia, 2001; Estonia, Greece and Luxembourg, not available.

The index of production for the EU-25's pharmaceuticals activity followed a continuous upward path throughout the period 1993 to 2004, with a growth that generally outperformed the chemicals average. The highest year on year rates of growth were recorded in 1995, 2001 and 2002, when output expanded by upwards of 7.0 %.

There was a modest increase in the domestic output price index for the EU-25's pharmaceuticals activity, rising on average by 0.7 % per annum between 1993 and 2004, with a relatively low 0.2 % increase in 2004.

The EU-25 pharmaceuticals sector is dominated by large enterprises (with 250 or more persons employed) that generated 85.7 % of its value added and accounted for 79.0 % of its workforce in 2001; these shares were 28.5 percentage points and 34.9 percentage points above the industrial average. Some of the largest pharmaceuticals enterprise groups in the EU-25 include GlaxoSmithKline (UK), Sanofi-Aventis (FR), Astra-Zeneca (UK) and Bayer (DE).

Figure 7.8
Manufacture of pharmaceuticals, medicinal chemicals and botanical products (NACE Group 24.4)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's pharmaceutical sector was valued at EUR 99 000 per person employed in 2002, which was among the top ten productivity ratios across the non-financial business economy (subject to EU-25 data availability for NACE groups). Personnel costs per employee averaged EUR 50 500 in 2002, which was 56.3 % above the EU-25 manufacturing (NACE Section D) average. The combination of these two ratios led to a wage adjusted labour productivity ratio of 196.1 % for the EU-25 in 2002, almost 40 % above the manufacturing average.

The highest apparent labour productivity in the pharmaceuticals sector was recorded in Ireland, while Sweden, Belgium, the United Kingdom, Denmark and France all recorded productivity ratios in the range of EUR 200 000 to EUR 100 000 per person employed in 2002 ⁽¹⁰⁾. In relative terms, apparent labour productivity for the pharmaceuticals sector was approximately three times the national industrial average in Slovenia, Hungary and Sweden, and more than double the national industrial average in Portugal, Belgium, Italy and the Czech Republic.

⁽¹⁰⁾ Belgium, Cyprus, Latvia and Slovakia, 2001; Estonia, Greece and Luxembourg, not available.

The pharmaceuticals sector reported one of the highest profitability ratios (as measured by the gross operating rate) within the industrial economy, at 16.7 % in the EU-25 in 2002. The highest operating rates in this sector were recorded in Ireland, Sweden and Hungary (all over 30 %), while gross operating rates for pharmaceuticals were higher than national industrial averages in every Member State, except Latvia, Lithuania, Malta and the Netherlands ⁽¹¹⁾.

⁽¹¹⁾ Belgium, Cyprus, Latvia and Slovakia, 2001; Estonia, Greece and Luxembourg, not available.

EXTERNAL TRADE

Pharmaceuticals (CPA Group 24.4) are an important contributor to the EU-25's external trade performance. They accounted for 38.8 % of all EU-25 chemical (CPA Subsection DG) exports to non-Community countries in 2004 and were valued at EUR 56.0 billion. Furthermore, the share of pharmaceuticals in total EU-25 chemical exports rose by 5.0 percentage points between 1999 and 2004. The EU-25's trade surplus for pharmaceuticals also grew between 1999 and 2004, rising from EUR 14.0 billion to EUR 22.6 billion; this latter figure equivalent to almost 40 % of the trade surplus for chemicals as a whole.

Germany was the largest exporter of pharmaceuticals among the Member States in 2004, with 18.5 % of EU exports (intra and extra-EU trade). Belgium (17.7 %), the United Kingdom (12.7 %), France (11.8 %) and Ireland (11.8 %) were the only other Member States to account for more than 10 % of pharmaceutical exports.

Table 7.8
Pharmaceuticals, medicinal chemicals and botanical products (CPA Group 24.4)

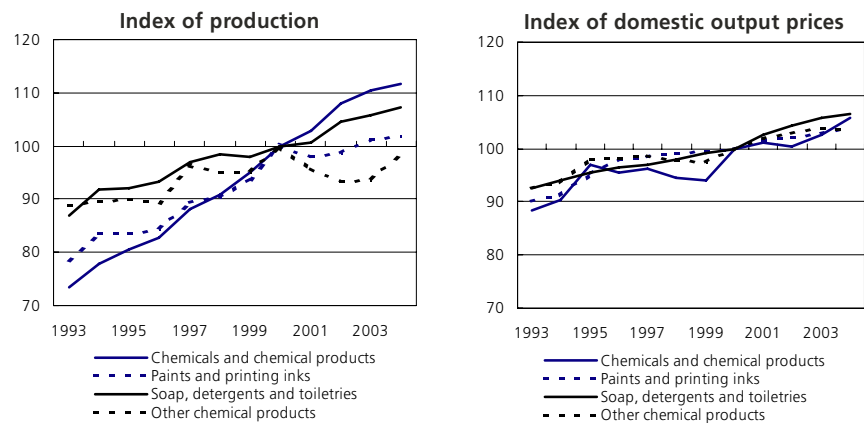
	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Pharmaceuticals, medicinal chemicals and botanical products	56 004	6.2	4.9	33 410	3.5	2.6	22 594	167.6
Basic pharmaceutical products	7 442	0.8	1.1	9 842	1.0	0.9	-2 399	75.6
Pharmaceutical preparations	48 411	5.4	3.8	23 501	2.5	1.6	24 910	206.0

Source: Eurostat, Comext

7.3: MISCELLANEOUS CHEMICAL PRODUCTS

This subchapter covers three NACE groups that are presented separately. The manufacture of paints, varnishes, enamels, lacquers, solvents, thinners, varnish removers, as well as printing inks (NACE Group 24.3) is the first; hereafter, referred to as paints and printing inks. The manufacture of washing and cleaning products, as well as perfumes, toiletries, cosmetics and related products (NACE Group 24.5) forms the next group; hereafter, referred to as soaps, detergents and toiletries. Finally, NACE Group 24.6 covers other chemical products, a residual grouping that includes the manufacture of photographic materials, explosives, glues and essential oils, as well as intermediate inputs for other manufacturing processes.

Figure 7.9
Miscellaneous chemical products (NACE Groups 24.3, 24.5 and 24.6)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 7.9
Miscellaneous chemical products (NACE Groups 24.3, 24.5 and 24.6)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Miscellaneous chemical products (1)	42 395	2.4	649	1.8
Paints and printing inks (1)	10 601	0.6	179	0.5
Soaps, detergents and toiletries	16 937	1.0	265	0.7
Other chemical products	14 857	0.8	208	0.6

(1) Number of persons employed and employment share, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 7.10
Miscellaneous chemical products (CPA Groups 24.3, 24.5 and 24.6)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Miscellaneous chemical products	34 137	4.3	4.1	15 279	1.7	2.0	18 858	223.4
Paints and printing inks	4 636	1.0	1.0	1 180	0.2	0.3	3 456	392.8
Soaps, detergents and toiletries	11 448	1.3	1.1	3 107	0.3	0.3	8 341	368.5
Other chemical products	18 053	2.0	2.0	10 992	1.2	1.4	7 061	164.2

Source: Eurostat, Comext

The EU-25's miscellaneous chemical products sector (NACE Groups 24.3, 24.5 and 24.6) created EUR 42.4 billion of value added in 2002, corresponding to 24.9 % of the chemicals (NACE Subsection DG) total. This sector employed 648 600 persons in the EU-25 in 2001, which was the highest figure among the chemical subsectors, and 33.6 % of the chemicals total. The three NACE groups that make-up miscellaneous chemical products were quite similar in size when measured in terms of

value added, as paints and printing inks (NACE Group 24.3) accounted for 6.2 % of the EU-25's chemicals sector, while the share for other chemical products (NACE Group 24.6) was 8.7 %, rising to 9.9 % for soaps, detergents and toiletries (NACE Group 24.5). All three NACE groups accounted for a higher proportion of the chemicals workforce.

MANUFACTURE OF PAINTS & PRINTING INKS

Paints provide a coat of colour and protection to a range of objects including buildings, cars, and household appliances. According to CEPE ⁽¹²⁾, about 50 % of European paint sales in 2003 were to the decorative household market (see Figure 7.10). Printing inks are also used in a wide variety of applications: from books, newspapers and magazines, to banknotes, container labels, or advertising posters (see Figure 7.11).

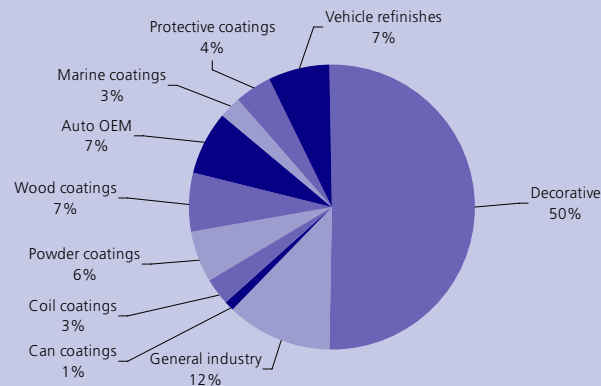
EU-25 value added for the paints and printing inks sector (NACE Group 24.3) was EUR 10.6 billion in 2002, while there were 179 400 persons employed in 2001. Almost one third (30.1 %) of the EU-25's value added was created in Germany in 2002. This relatively high share was typical of the contribution made by each of the five largest Member States, as the cumulative share of Germany, the United Kingdom, Italy, France and Spain was 78.7 % of EU-25 value added, compared with 68.3 % for the chemicals sector as a whole. Much of the difference could be explained by the comparatively low level of activity in this sector in Ireland and Belgium, in relation to their contributions to other chemical subsectors ⁽¹³⁾.

The EU-25's index of production for paints and printing inks rose on average by 2.5 % per annum between 1993 and 2004, which was 1.4 percentage points below the chemicals average. The output of paints and printing inks expanded at a rapid pace (by more than 6.0 % per annum) in 1994, 1997 and 2000; coinciding with the most rapid periods of growth that were reported for the whole of the chemicals sector. EU-25 domestic output prices for paints and printing inks followed a steady upward progression throughout the period 1993 to 2004, although price increases were generally modest. Between 1997 and 2004, the evolution of output price increases was confined to the relatively narrow range of 0.2 % to 1.5 %.

⁽¹²⁾ CEPE (European Council of the Paint, Printing Inks and Artists Colours Inks), more information available at: <http://www.cepe.org>; EU-15, Hungary, Norway and Switzerland.

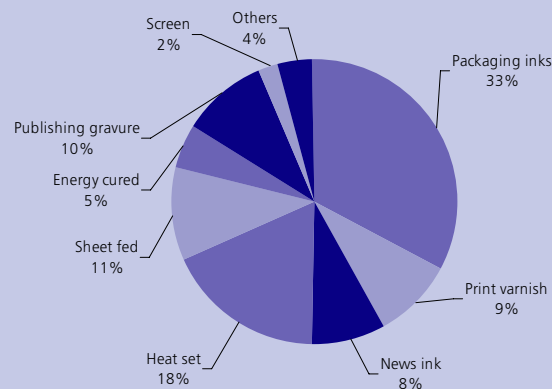
⁽¹³⁾ Belgium, Ireland and Latvia, 2001; Greece, Lithuania, Luxembourg and Poland, not available.

Figure 7.10
Sales value of paint by end-use, Europe, 2003 (% of total) (1)



(1) EU-15, Hungary, Norway and Switzerland.
Source: CEPE, <http://www.cepe.org>

Figure 7.11
Sales value of ink by use, Europe, 2003 (% of total) (1)



(1) EU-15, Hungary, Norway and Switzerland.
Source: CEPE, <http://www.cepe.org>

According to structural business statistics, the activity of paints and printing inks was characterised by an atypical size class distribution. While large enterprises (with 250 or more persons employed) supplied the majority (58.0 %) of value added in the paints and printing inks sector in 2001, their contribution was well below the chemicals average (76.5 %), as small and medium-sized enterprises (with between 10 and 249 persons employed) played a particularly important role, generating 39.4 % of value added (compared with a chemicals average of 22.1 %).

Labour productivity ratios show that the paints and printing inks sector was more productive than the industrial average (by 31 %), while personnel costs per employee were 25.6 % higher than the manufacturing (NACE Section D) average in 2001.

Paints, varnishes and similar coatings, printing ink and mastics (CPA Group 24.3) accounted for 3.3 % of EU-25 chemical exports to non-Community countries in 2004. The EU-25 ran a trade surplus of EUR 3.5 billion in 2004, as the cover ratio for these products was 392.8 %. As the leading producer of paints and printing inks, it was not surprising to find that Germany also dominated EU exports of paints, varnishes and similar coatings, printing ink and mastics, accounting for 30.7 % of EU exports (intra- and extra-EU trade) in 2004.

MANUFACTURE OF SOAPS, DETERGENTS AND TOILETRIES

The main regulatory framework for cosmetic products is Council Directive 76/768 of 27 July 1976. Since its adoption, the Directive has been amended seven times, the latest of which provided for more detailed provisions on the phasing out of animal testing, while progressively introducing a new symbol that shows the number of months after opening within which a cosmetic product remains usable - period after opening (PAO).

The EU-25's soaps, detergents and toiletries sector (NACE Group 24.5) is characterised by relatively high degrees of research intensity, product differentiation and multinational branding. The soaps, detergents and toiletries sector created EUR 16.9 billion of added value in the EU-25 in 2002, which was almost one tenth (9.9 %) of the chemicals (NACE Subsection DG) total; there were 265 400 persons employed. France reported the highest share (25.5 %) of EU-25 value added in 2002 ⁽¹⁴⁾ and also headed a ranking of value added specialisation, as soaps, detergents and toiletries provided 1.8 % of French industrial value added, compared to an EU-25 average of 1.0 %. The soap and detergents subsector (NACE Class 24.51) was usually larger than the perfumes and toiletries subsector (NACE Class 24.52) when measured in terms of value added ⁽¹⁵⁾. However, the French perfumes and toiletries subsector was 3.4 times larger than that of soaps and detergents, while in Ireland, Finland and the United Kingdom this ratio was at least 1.4.

According to COLIPA (the European Trade Association representing the interests of the cosmetic, toiletry and perfumery industry, more information at: <http://www.colipa.com>), the Western European market for perfumes and toiletries was broken down as follows in 2004 (on the basis of retail sales): toiletries (25 %), hair care (25 %), skin care (23 %), fragrances and perfumes (15 %) and make-up (12 %). AISE (the International Association for Soaps, Detergents and Maintenance Products, more information at: <http://www.aise-net.org>) provides information on the soaps and detergents market, for both household and industrial and institutional sectors (see Table 7.11).

The EU-25 index of production for soaps, detergents and toiletries grew at a slower pace than the overall index for chemicals throughout the period 1993 to 2003. However, this pattern was reversed in 2004, with the growth in the production index for soaps, detergents and toiletries 0.5 percentage points higher than that for chemicals.

⁽¹⁴⁾ Belgium and Finland, 2001; Greece, Latvia and Luxembourg, not available.

⁽¹⁵⁾ Belgium, Ireland and Finland, 2001; Estonia, Greece, Latvia and Luxembourg, not available.

Table 7.11
End use of soaps, detergents and maintenance products in Europe, 2004 (1)

	Value (EUR million)	(% of total)
Household use		
Soaps	696	3.0
Fabric washing	11 832	51.0
Dish cleaning	3 248	14.0
Hard surface cleaners	3 480	15.0
Maintenance products	3 016	13.0
Bleaches	928	4.0
Total	23 200	100.0
Industrial and institutional use		
Laundry	620	10.0
Food and beverages	1 116	18.0
Kitchen and catering	1 426	23.0
Building care	930	15.0
Technical cleaning	1 612	26.0
Other	496	8.0
Total	6 200	100.0

(1) EU-25, Iceland, Norway and Switzerland; retail sales prices for household cleaning products; manufacturing sales prices (ex-factory) for industrial and institutional products.
Source: A.I.S.E., <http://www.aise-net.org>

Some 71.4 % of the EU-25's value added in 2001 was created by large enterprises (with 250 or more persons employed), while they provided work to 79.0 % of the workforce.

Glycerol; soap and detergents, cleaning and polishing preparations; perfumes and toilet preparations (CPA Group 24.5) accounted for a stable share of EU-25 chemical exports and imports during the period 1999 to 2004. These products represented 7.9 % of EU-25 chemical exports to non-Community countries and 3.6 % of chemical imports in 2004. The EU-25 recorded a trade surplus of EUR 8.3 billion, which represented 14.6 % of the chemicals total. Perfumes and toilet preparations (CPA Class 24.52) were by far the most important products in terms of external trade performance, as they accounted for between 68 % and 75 % of exports, imports and the trade balance in 2004. France was the leading exporter (intra- and extra-EU trade) of perfumes and toilet preparations in 2004, with a 35.8 % share of the EU total, while Germany had the highest share of exports (24.0 %) for glycerol; soap and detergents, cleaning and polishing preparations (CPA Class 24.51).

MANUFACTURE OF OTHER CHEMICAL PRODUCTS

Some EUR 14.9 billion of value added were created by the EU-25's other chemical products sector (NACE Group 24.6) in 2002; representing 8.7 % of the value added within the chemicals (NACE Subsection DG) sector. Added value was particularly concentrated among the five largest Member States that together had a cumulative share of 77.3 % of EU-25 value added in 2002, compared with a chemicals average of 68.3 %. Germany was the largest producer (EUR 3.9 billion) ⁽¹⁶⁾, while the high proportion of EU-25 activity among the larger Member States was evident in the range of values reported for value added specialisation, as the Netherlands and Luxembourg were the only other Member States with ratios above 110 %.

EU-25 output of other chemical products remained almost unchanged between 1993 and 1996, following which there was a rapid increase (7.7 %) in production in 1997. This pattern was repeated with a modest decline and no change in output during 1998 and 1999, followed by a 5.4 % increase in 2000. Between 2001 and 2003 the index of production for other chemical products fell on average by 2.2 % per annum, rebounding by 5.1 % in 2004. During the period 2000 to 2004, the production of explosives (NACE Class 24.61) and glues and gelatines (NACE Class 24.62) rose, on average, by 3.9 % and 1.7 % per annum within the EU-25.

The apparent labour productivity ratio of the other chemical products sector was relatively low in comparison with other chemical activities, as an average of EUR 71 300 of value added was generated by each person employed in 2002 in the EU-25, compared with a chemicals average of EUR 84 100 in 2001. Personnel costs per employee (EUR 45 000) in 2002 within the other chemical products sector were only slightly below the chemicals average (EUR 45 600) in 2001, and, as a result, wage adjusted labour productivity for other chemical products was 158.5 % in 2002, well below the chemicals average of 184.4 % in 2001.

Other chemical products (CPA Group 24.6) accounted for 12.5 % of EU-25 chemical exports to non-Community countries in 2004, with exports valued at EUR 18.1 billion. The level of imports was considerably lower at EUR 11.0 billion, resulting in a trade surplus of EUR 7.1 billion. By far the most important product grouping among the six CPA classes that make-up other chemical products was the miscellaneous category of other chemical products n.e.c. (CPA Class 24.66), followed by essential oils (CPA Class 24.63) and photographic chemical material (CPA Class 24.64). None of the remaining three CPA classes accounted for more than 10 % of other chemical exports in 2004.

⁽¹⁶⁾ Cyprus and Luxembourg, 2001; Belgium, Greece, Ireland, Latvia and Poland, not available.

7.4: MAN-MADE FIBRES

This subchapter relates to the manufacture of artificial and synthetic fibres (NACE Group 24.7) in the form of tow, fibres, yarn, or strips. It excludes the manufacture of sewing thread (NACE Class 17.16) and man-made fibres derived from minerals (carbon, ceramic, glass or metal).

Man-made fibres can be manufactured from natural polymers (for example, to produce viscose), or from synthetic polymers that are based on petrochemicals (for example, to produce polyester or nylon). Many of the products that are manufactured within the man-made fibres sector are intermediate goods that are later processed by downstream industries before reaching end-consumers, for example, in the form of clothing.

STRUCTURAL PROFILE

The man-made fibres sector (NACE Group 24.7) accounted for 1.7 % of the value added created by the whole of the EU-25's chemicals (NACE Subsection DG) sector in 2002, and employed 56 700 persons. Germany was the leading producer⁽¹⁷⁾, with a 33.0 % share of EU-25 value added, followed by Italy (11.1 %). Slovakia, Austria, the Netherlands and Belgium were the most specialised producers of man-made fibres (in terms of their relative value added industrial specialisation ratios).

The EU-25 production index for the man-made fibres activity contracted between 2000 and 2003, falling on average by 7.7 % per annum, although it stabilised in 2004 (+0.5 %).

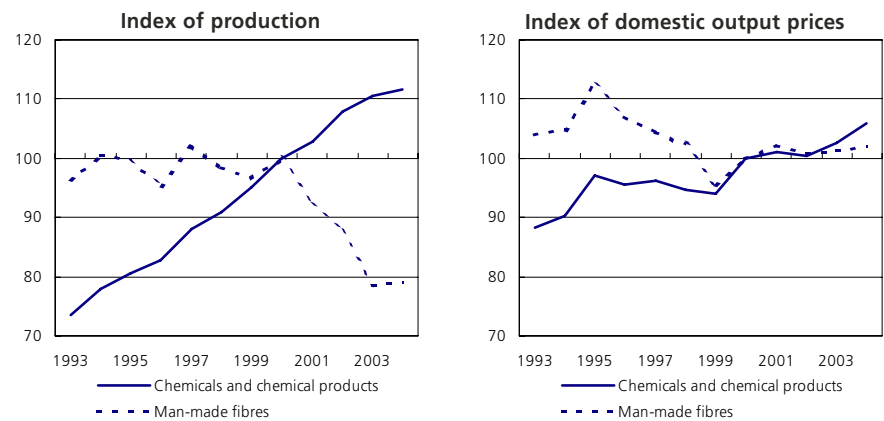
Large enterprises (with 250 or more persons employed) contributed 81.8 % of the value added generated within the EU-25's man-made fibres sector in 2001; this was the second highest proportion within the chemicals sector (at the NACE group level of detail). The relative contribution of SMEs (with less than 250 persons employed) to value added tended to be higher in the Member States that joined the EU in 2004, except in Lithuania, Poland and Slovakia.

PRODUCTIVITY AND PROFITABILITY

The man-made fibres sector recorded the lowest apparent labour productivity ratio among the seven NACE groups that make-up the chemicals sector, as average value added per person employed in the EU-25 was EUR 52 500 in 2002; nevertheless, this figure was EUR 3 450 more per person employed than the EU-25 industrial average. The EU-25's

⁽¹⁷⁾ Belgium, 2001; Denmark, Greece, Ireland, Latvia, Lithuania, Luxembourg, Poland, Slovenia, Finland and Sweden, not available.

Figure 7.12
Manufacture of man-made fibres (NACE Group 24.7)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

man-made fibres sector also recorded the lowest average personnel costs (EUR 36 600 per employee) among the NACE groups within the chemicals sector in 2002. The highest apparent labour productivity was recorded in the United Kingdom, where each person employed generated EUR 142 100 of added value. Labour productivity within the man-made fibres sector was more than double the national industrial (NACE Sections C to E) average in Portugal and the United Kingdom⁽¹⁸⁾. The gross operating rate (which is an indicator of profitability) was 7.5 % in 2002; some 2.5 percentage points below the industrial average.

⁽¹⁸⁾ Belgium, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Poland, Slovenia, Finland and Sweden, not available.

EXTERNAL TRADE

Man-made fibres (CPA Group 24.7) were the only one of the seven CPA groups that make-up chemical products to report a trade deficit in 2004. Nevertheless, the EU-25's trade deficit with non-Community countries had been greater in 2000 (EUR 2.7 billion), and was reduced in successive years to 2004 (EUR 0.5 billion). The trade deficit shrank as EU-25 imports of man-made fibres remained almost unchanged between 1999 and 2004, while exports grew at a faster pace than the chemicals average to reach EUR 1.2 billion. Export growth was particularly pronounced between 2003 and 2004 mainly as a result of a 3.8 fold increase in Dutch exports of man-made fibres, resulting in the Netherlands becoming the principal exporter (intra- and extra-EU trade) of man-made fibres in 2004.

Table 7.12
Manufacture of man-made fibres (NACE Group 24.7)
Labour productivity, personnel costs and gross operating rate:

ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	United Kingdom (142.1)	Netherlands (62.3)	United Kingdom (298.9)	United Kingdom (27.2)
2	Netherlands (106.8)	Austria (54.8)	Slovakia (205.3)	Netherlands (19.5)
3	Austria (92.1)	Germany (47.9)	Portugal (198.6)	Austria (16.1)

(1) Belgium, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Poland, Slovenia, Finland and Sweden, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

7.5: RUBBER

The rubber sector (NACE Group 25.1) has three distinct parts: the manufacture of rubber tyres and tubes; the retreading and rebuilding of rubber tyres; and the manufacture of other rubber products.

BLIC (the European Association of the Rubber industry, more information at: <http://www.blic.be>) estimate that global rubber consumption increased to over 20 million tonnes in 2004. However, the pace at which rubber consumption was growing slowed to 3.7 %, compared with annual rates of more than 5 % in the previous two years. A breakdown of the 2004 data reveals that global consumption of natural rubber was 8.2 million tonnes, compared with 11.8 million tonnes for synthetic rubber.

The main downstream markets for rubber products are those of transport equipment, in particular motor vehicles (not only in the form of tyres, but also parts and components, such as windscreen wipers, window seals or fan belts). Otherwise, a fairly large proportion of rubber output is destined for health, pharmaceutical and mining sectors.

As regards legislative developments, the rubber products sector is included within the requirements of the REACH programme (see Box 7.1 in the overview for more details). Other environmental issues remain of concern, in particular recycling used tyres and disposing of tyres that have reached the end of their life.

STRUCTURAL PROFILE

The EU-25's value added for the rubber sector (NACE Group 25.1) was EUR 16.8 billion in 2002, which equated to a 6.9 % share of the chemicals, rubber and plastics (NACE Subsections DG and DH) total. There were 359 300 persons employed in this sector in the EU-25 in 2002. The rubber sector was highly concentrated within the largest EU-25 economies, as the five largest Member States had a cumulative contribution of 82.5 % to EU-25 value added in 2002. Germany (27.2 %) and France (20.3 %) were by far the largest producers, while there was a high degree of specialisation in Luxembourg, where the rubber sector contributed more than seven times the EU-25 average to industrial value added ⁽¹⁹⁾.

⁽¹⁹⁾ Belgium and Latvia, 2001; Greece, not available.

Table 7.13

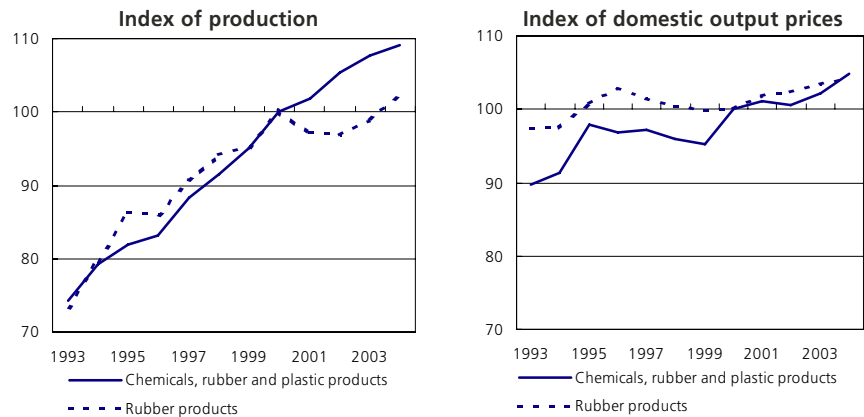
**Manufacture of rubber products (NACE Group 25.1)
Structural profile: ranking of the top 3 Member States, 2002**

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (27.2)	Luxembourg (744.3)	Germany (21.4)	Luxembourg (519.0)
2	France (20.3)	Malta (405.6)	France (19.7)	Malta (268.5)
3	Italy (12.9)	Slovakia (209.3)	Italy (13.1)	France (165.5)

(1) Belgium and Latvia, 2001; Greece, not available.
 (2) Belgium and Latvia, 2001; Greece and Ireland, not available.
 (3) Greece, not available.
 (4) Latvia, 2001; Greece and Ireland, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 7.13

**Manufacture of rubber products (NACE Group 25.1)
Evolution of main indicators, EU-25 (2000=100)**



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Output within the EU-25's rubber activity grew at a rapid pace from 1993 to 1995, after which the index of production followed a similar path to that exhibited for chemicals, rubber and plastics activities together through to 2000. Successive declines in output were then recorded for the EU-25's rubber activity in 2001 and 2002, after which growth resumed with gains of 2.0 % in 2003 and 3.6 % in 2004.

World oil prices are one of the key determinants of the evolution of output prices for synthetic rubber, as high oil prices tend to feed through to butadiene producers (for more information on crude oil prices, see Subchapter 2.1). Otherwise, commodity prices of natural rubber also play an important role in determining output prices for rubber activities. Domestic output prices in the EU-25 peaked in 1996, after which there were three successive years of falling prices (following the evolution of crude oil prices). Thereafter the price of rubber products rose by an average of 0.9 % per annum between 1999 and 2004. During

this period, higher price increases were recorded for the manufacture of rubber tyres and tubes (NACE Class 25.11), where prices rose overall by 7.1 % between 1999 and 2004, compared with a 2.5 % increase for other rubber products (NACE Class 25.13) ⁽²⁰⁾.

A size class breakdown of information for the rubber sector showed a pattern that was similar to that observed for most of the chemical activities: 73.2 % of the EU-25's value added generated in the rubber sector was created by large enterprises.

⁽²⁰⁾ Retreading and rebuilding of rubber tyres (NACE Class 25.12), not available.

Table 7.14

Production value of selected rubber products (CPA Group 25.1), EU-25, 2003 (EUR million)

	Prodcom code(s)	
New pneumatic rubber tyres for motor cars (incl. for racing cars)	25.11.11.00	8 555
New pneumatic rubber tyres for motorcycles and scooters with rims	25.11.12.35 and 25.11.12.37	320
New pneumatic rubber tyres for bicycles	25.11.12.60	32
New pneumatic rubber tyres for buses or lorries	25.11.13.55 and 25.11.13.57	4 135
New pneumatic rubber tyres for agricultural or forestry vehicles	25.11.14.04	659
Retreaded tyres of rubber	25.12.10.30, 25.12.10.50 and 25.12.10.90	891
Compounded rubber unvulcanised (incl. with carbon black or silica and rubber solutions, dispersions)	25.13.20.13, 25.13.20.15 and 25.13.20.19	2 267
Forms and articles of unvulcanised rubber (incl. rods; tubes; profile shapes; discs and rings) (excl. camel-back; strips for retreading tyres)	25.13.20.30	512
Plates, sheets and strip of vulcanized rubber	25.13.20.70	748
Extruded solid rubber rods and profiles and rubber rods and profiles of cellular vulcanised rubber	25.13.20.83 and 25.13.20.87	1 215
Rubber tubing not reinforced	25.13.30.30	658
Rubber hose reinforced or combined with other materials	25.13.30.55, 25.13.30.57 and 25.13.30.59	1 431
Rubber hose assemblies	25.13.30.70	550
Rubber belts	25.13.40.30, 25.13.40.50, 25.13.40.75 and 25.13.40.79	1 561
Rubberized textile fabrics and adhesive tape	25.13.50.50 and 25.13.50.70	749
Hygienic or pharmaceutical articles of rubber (incl. sheath contraceptives, teats; nipple shields and similar articles for babies)	25.13.71.50, 25.13.71.70 and 25.13.71.90	659
Floor coverings and mats of vulcanised rubber; non-cellular	25.13.72.00	405
Seals; of vulcanised rubber	25.13.73.23	1 727
Rubber-to-metal bonded articles for tractors and motor vehicles	25.13.73.45	1 908
Moulded rubber articles for tractors and motor vehicles	25.13.73.47	1 689

Source: Eurostat, PRODCOM

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25 rubber sector was EUR 46 800 in 2002, some EUR 2 250 below the industrial (NACE Sections C to E) average. Average employee costs were EUR 33 600, which was EUR 1 300 above the manufacturing (NACE Section D) average. There was a relatively wide range of apparent labour productivity ratios for the rubber products sector in 2002, from a high of EUR 96 400 in Luxembourg to EUR 3 500 in Lithuania ⁽²¹⁾. EU-25 wage adjusted labour productivity was 139.3 % in 2002, while value added covered personnel costs (when adjusted for the share of employees in persons employed) at least twice over in the Maltese, Czech, Portuguese and Slovakian rubber sectors.

The profitability of the EU-25's rubber products sector, as measured by the gross operating rate, was almost in line with the average for the whole industrial economy, as the operating rate

stood at 9.6 % in 2002, compared with an industrial average of 10.0 %. The highest operating rates were recorded in Latvia, Malta, Finland and Portugal, where profitability in the rubber sector was at least 60 % above the national industrial average ⁽²²⁾.

EXTERNAL TRADE

EU-25 exports of rubber products (CPA Group 25.1) to non-Community countries were valued at EUR 6.5 billion in 2004, which equated to 3.9 % of chemical, rubber and plastic exports. EU-25 imports of rubber products were valued at EUR 6.2 billion in 2004, and as such these products recorded one of the smallest trade surpluses (EUR 325 million) among the nine CPA groups that make-up the chemical, rubber and plastic products sector. Over the period 1999 to 2004, the EU-25 recorded a trade deficit for rubber products in both 1999 and 2003 and a surplus in other years.

⁽²²⁾ Belgium and Latvia, 2001; Greece, not available.

There was almost no external trade of retreaded pneumatic tyres made of rubber (CPA Class 25.12), while the EU-25 posted a deficit in five of the six years from 1999 to 2004 for new and used rubber tyres and tubes (CPA Class 25.11). However, following a deficit of EUR 43 million in 1999 for other rubber products (CPA Class 25.13), the EU-25 thereafter posted a trade surplus for these products, and this surplus grew in successive years to reach EUR 662 million by 2004.

Germany accounted for almost one quarter (23.8 %) of the EU's exports (intra- and extra-EU trade) of rubber products in 2004, while France (15.5 %) and Italy (10.3 %) were the only other Member States to record double-digit shares. The contribution of rubber exports to industrial exports of goods in Slovenia, Slovakia, Luxembourg, Malta and the Czech Republic was two to three times as high as the EU average.

⁽²¹⁾ Belgium and Latvia, 2001; Greece, not available.

Table 7.15

Rubber products (CPA Group 25.1)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Rubber products	6 521	0.7	0.7	6 196	0.7	0.7	325	105.2
New and used rubber tyres and tubes	3 093	0.3	0.4	3 468	0.4	0.4	-375	89.2
Retreaded pneumatic tyres, of rubber	44	0.0	0.0	6	0.0	0.0	39	800.7
Other rubber products	3 384	0.4	0.3	2 722	0.3	0.3	662	124.3

Source: Eurostat, Comext

7.6: PLASTICS

This subchapter covers the manufacture of plastic products (NACE Group 25.2), including plastic sheets, pipes and tubes; plastic packaging goods (such as bags, containers and bottles); plastic products for the construction sector (such as doors, frames and baths); and other plastic products (such as insulating and lighting fittings). Note that the manufacture of plastic games, toys, footwear, furniture and linoleum are not considered as part of this sector.

While the first processing of plastics into primary forms (which are included as part of Subchapter 7.1) is usually carried out by very large enterprises, their conversion into a range of plastic products is usually the domain of a network of small and medium-sized enterprises. One interesting development is the 'plastics valley' industrial cluster established in Tarnow, south east Poland, which aims to attract plastics processing businesses to be located around Polish polymer enterprises. Another important regional cluster of plastic processors is found in the Rhône-Alpes region of France around Oyonnax.

According to APME (Association of Plastics Manufacturers, more information at: <http://www.plasticseurope.org>), the consumption of polymers for plastics applications in Western Europe (EU-15, Norway and Switzerland) was 39.7 million tonnes in 2003, some 98.1 kg per capita. Consumption by end-use shows that the most important areas for plastic processors include packaging, other household/domestic uses, the building and construction sector, electrical and electronic equipment, and motor vehicle parts (see Figure 7.14).

STRUCTURAL PROFILE

EU-25 value added in the plastics sector (NACE Group 25.2) reached EUR 55.7 billion in 2002, while there were 1.3 million persons employed within the activity. The plastics sector accounted for 22.9 % of the value added generated within the EU-25's chemicals, rubber and plastics (NACE Subsections DG and DH) industry in 2002. Its share of employment was considerably higher, as plastics employed more than one in three persons (36.2 %) in the EU-25's chemicals, rubber and plastics workforce in 2001.

Figure 7.14
Plastics consumption by end-use, Western Europe, 2003
(%, based on volume in tonnes) (1)

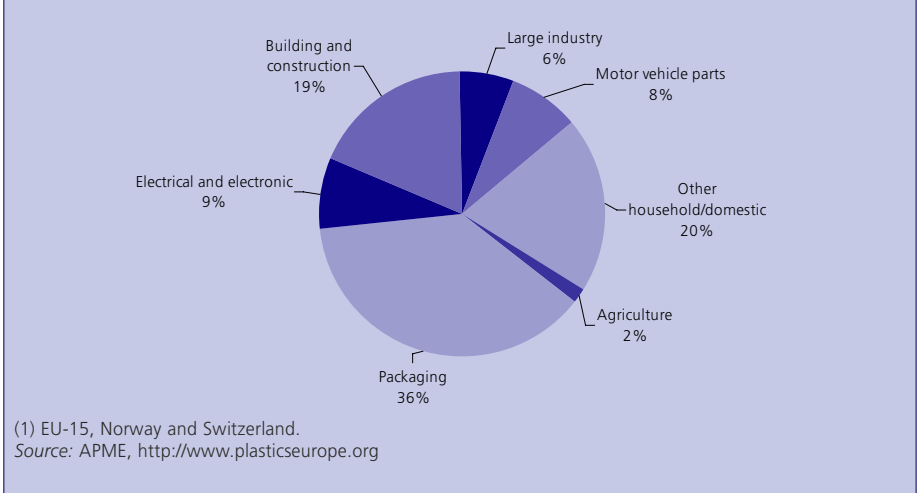


Table 7.16
Manufacture of plastic products (NACE Group 25.2)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (27.3)	Luxembourg (251.9)	Germany (23.4)	Luxembourg (162.5)
2	United Kingdom (17.0)	Denmark (128.1)	United Kingdom (15.1)	United Kingdom (136.5)
3	France (13.8)	Slovenia (114.9)	France (13.2)	Denmark (124.4)

(1) Belgium and Latvia, 2001; Greece, not available.
(2) Belgium and Latvia, 2001; Greece and Ireland, not available.
(3) Greece, not available.
(4) Latvia, 2001; Greece and Ireland, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The highest level of value added was recorded in Germany⁽²³⁾, with 27.3 % of the EU-25's total in 2002, followed by the United Kingdom (17.0 %), France (13.8 %) and Italy (13.6 %). The manufacture of plastics represented 3.4 % of industrial (NACE Sections C to E) value added in Germany, Italy and the United Kingdom, which was 0.2 percentage points above the EU-25 average. Given the weight of these three countries in the EU-25 total, there were relatively few of the remaining Member States that were specialised in the manufacture of plastic products. Only Luxembourg, where the plastics sector accounted for 8.1 % of industrial value added in 2002, Denmark (4.1 %) and Slovenia (3.6 %) recorded specialisation ratios that exceeded those registered by Germany, the United Kingdom and Italy.

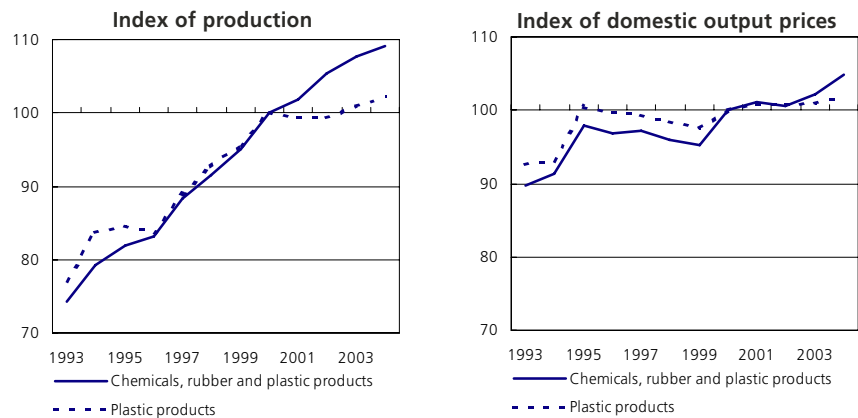
⁽²³⁾ Belgium and Latvia, 2001; Greece, not available.

The EU-25 index of production for the plastics activity generally followed an upward evolution during the period 1993 to 2004; this pattern was broken on two occasions as output fell in 1996 (-1.0 %) and 2001 (-0.7 %). Overall, the index of production rose by an average of 2.6 % per annum between 1993 and 2004 for plastics, compared with a rate of 3.6 % for the whole of chemicals, rubber and plastics. However, the pace of output growth slowed considerably for plastics from 2000 onwards, as the EU-25's production index for plastics rose by an average of just 0.5 % per annum between 2000 and 2004, some 1.7 percentage points below the average for the whole of chemicals, rubber and plastics. During this period of relatively modest growth, the manufacture of plastic packing goods (NACE Class 25.22) reported the highest increase in its EU-25 index of production (among the NACE classes that make-up this subchapter), as output rose by an average of 2.0 % per annum between 2000 and 2004, while there was a decline in output for builders' ware of plastic (NACE Class 25.23) which started in 1999, although there was a modest recovery in 2003 and 2004.

The cost structure of enterprises operating in this sector has not only been influenced by increases in the cost of feedstocks, but also by higher energy and distribution costs. Nevertheless, EU-25 output prices for the manufacture of plastic products generally followed a similar trend to that displayed for the whole of the chemicals, rubber and plastics manufacturing activities during the period 1993 to 2004. The price of plastic products rose, on average, by 0.9 % per annum over the period considered, compared with a 1.4 % per annum increase for chemicals, rubber and plastic products. Between 1995 and 2004 the price of other plastic products (NACE Class 25.21) fell on average, although there was a 1.7 % increase in the price of these goods in 2004. The only plastics NACE class where output prices rose by more than 1 % between 2003 and 2004 was the manufacture of builders' ware of plastics (NACE Class 25.23), where EU-25 prices rose by 1.2 %.

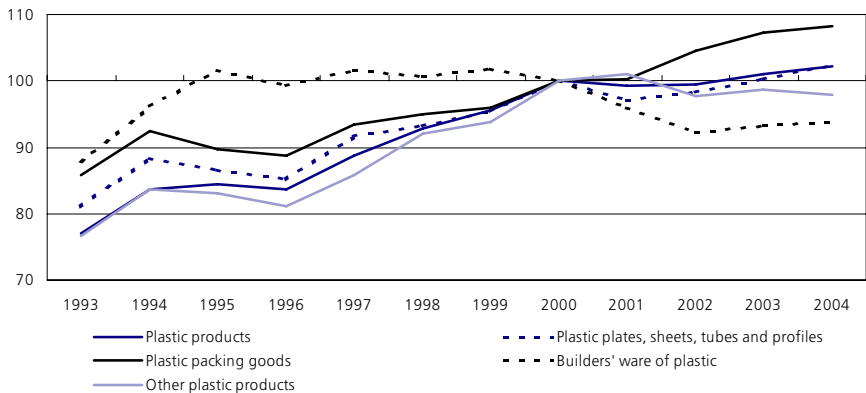
An analysis of enterprise size shows that both small and medium-sized enterprises (with 10 to 249 persons employed) were relatively important within the plastics processing sector (NACE Group 25.2), in contrast to the relative dominance of larger enterprises (with 250 or more persons employed) in the upstream activity of producing primary plastics (part of NACE Group 24.1). Small and medium-sized enterprises together contributed a 58.6 % share of EU-25 value added within the plastics processing sector in 2001, compared with a chemicals, rubber and plastics average of 30.9 %.

Figure 7.15
Manufacture of plastic products (NACE Group 25.2)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 7.16
Manufacture of plastic products (NACE Group 25.2)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

LABOUR AND PRODUCTIVITY

Persons employed in the EU-25's plastics sector generated an average of EUR 42 300 of value added in 2002, some EUR 6 800 below the industrial (NACE Sections C to E) average. Average personnel costs stood at EUR 29 600 per employee, resulting in a wage adjusted labour productivity ratio of 143.2 % (following an adjustment for the share of employees in persons employed). As such, wage adjusted labour productivity for the plastics sector was somewhat higher than for the rubber sector (NACE Group 25.1, 139.3 %), but well below the chemicals sector (NACE Subsection DG), where a ratio of 184.4 % was recorded in 2001.

Among the Member States⁽²⁴⁾, the highest apparent labour productivity was recorded in Luxembourg (as was the case for rubber products), where value added per person

⁽²⁴⁾ Belgium and Latvia, 2001; Greece, not available.

employed in 2002 was EUR 94 200, some 33.7 % above the industrial average for Luxembourg - this was the highest ratio among the Member States. Lithuania, Portugal, Italy and Slovenia were the only other Member States to report that their plastics sector had a higher level of labour productivity than their national industrial average. In a similar vein, Estonia, Portugal and Luxembourg were the only Member States to report that average personnel costs for the plastics sector were above their national industrial averages; it was common to find that average personnel costs per employee were some 10 % to 20 % lower than respective national industrial averages.

The gross operating rate (which is a measure of profitability) of the EU-25's plastics sector was 10.6 % in 2002, some 0.6 percentage points higher than the average for the whole of the EU-25's industrial economy, but more than 25 % higher than the industrial average in Germany, Hungary, Luxembourg, Slovenia and Malta.

Table 7.17

Production value of selected plastic products (CPA Group 25.2), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Monofilament with any cross-sectional dimension > 1 mm	25.21.10.50, 25.21.10.70 and 25.21.10.90	4 091
Artificial guts (sausage skins) of hardened protein or cellulosic materials	25.21.21.30	658
Rigid tubes; pipes and hoses	25.21.21.55, 25.21.21.57 and 25.21.21.70	3 526
Plastic tubes; pipes and hoses (including fittings, such as joints, elbows and flanges)	25.21.22.20, 25.21.22.35, 25.21.22.37, 25.21.22.50 and 25.21.22.70	3 750
Plastic sacks and bags (incl. cones) (excl. of polymers of ethylene)	25.22.12.00	1 526
Plastic boxes; cases; crates and similar articles for the conveyance or packing of goods	25.22.13.00	4 894
Plastic carboys; bottles; flasks and similar articles for the conveyance or packing of goods; of a capacity > 2 litres	25.22.14.70	1 437
Plastic spools; cops; bobbins and similar supports	25.22.15.23	1 143
Plastic caps and capsules for bottles	25.22.15.25	977
Plastic floor, wall or ceiling coverings	25.23.11.55, 25.23.11.59 and 25.23.11.90	1 946
Plastic baths; shower-baths, wash-basins, lavatory seats and covers, bidets, lavatory pans, flushing cisterns etc.	25.23.12.50, 25.23.12.70 and 25.23.12.90	2 769
Plastic reservoirs; tanks; vats; intermediate bulk and similar containers; of a capacity > 300 litres	25.23.13.00	974
Plastic shutters; blinds and similar articles and parts thereof	25.23.14.70	953
Builder's fittings and mountings intended for permanent installation of plastics	25.23.15.50	1 858
Plastic articles of apparel and clothing accessories (incl. gloves; raincoats; aprons; belts and babies' bibs) (excl. headgear)	25.24.10.00	499
Other toiletry and household articles of plastics n.e.c.	25.24.23.70	2 263
Office or school supplies of plastic (incl. paperweights; paper-knives; blotting pads; pen-rests; and book marks)	25.24.27.00	1 278
Other articles made from sheet	25.24.28.50	1 383
Plastic parts for machinery and mechanical appliances excl. internal combustion piston engines, gas turbines	25.24.90.10	2 028
Plastic parts for electrical machinery and equipment; sound recorders and reproducers; television image and sound recorders and reproducers	25.24.90.93	1 331

Source: Eurostat, PRODCOM

EXTERNAL TRADE

The EU-25 ran a trade surplus with non-Community countries for plastic products (CPA Group 25.2) that was valued at EUR 4.1 billion in 2004. This figure continued a pattern of increasing trade surpluses during the period 1999 to 2004 and resulted from a more rapid growth of exports over the period considered.

EU-25 exports of plastics were valued at EUR 14.9 billion in 2004, which was equivalent to 9.0 % of the chemicals, rubber and plastics total (the same share as in 1999). Plastic plates, sheets, tubes and profiles (CPA Class 25.21) accounted for 42.4 % of plastics exports in 2004.

Among the EU Member States, Germany was by far the leading exporter (intra- and extra-EU trade) of plastic products in 2004, with exports valued at EUR 16.7 billion, which equated to some 27.8 % of the EU total. Italy (12.7 %) and France (10.1 %) were the only other Member States to record double-digit export shares.

Table 7.18

Plastic products (CPA Group 25.2)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Plastic products	14 920	1.7	1.5	10 778	1.1	1.2	4 142	138.4
Plastic plates, sheets, tubes and profiles	6 326	0.7	0.6	3 013	0.3	0.4	3 313	209.9
Packaging products of plastics	2 051	0.2	0.2	2 197	0.2	0.2	-146	93.3
Builders' ware of plastics	1 302	0.1	0.1	625	0.1	0.1	677	208.4
Other plastic products	5 138	0.6	0.5	4 942	0.5	0.6	195	104.0

Source: Eurostat, Comext

Table 7.19

Manufacture of chemicals and chemical products (NACE Division 24)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	601 030	31 993	3 833	7 517	137 913	213	37 907	111 349	31 549	71 771	177	143	349	611	3 740	58	
Production (EUR million) (2)	532 517	29 315	3 749	7 678	120 683	181	34 386	100 108	30 926	67 880	160	163	350	518	3 457	58	
Value added at factor cost (EUR million) (3)	170 555	9 051	994	2 965	40 639	44	9 826	24 427	16 247	15 924	60	61	56	112	1 191	20	
Gross operating surplus (EUR million) (3)	80 375	4 693	571	1 408	13 507	24	4 612	8 838	15 127	6 876	29	40	18	46	702	8	
Purchases of goods and services (EUR million)		23 833	2 933	5 054	96 991	170	29 121	86 681	15 425	55 559	120	104	301	487	2 592	39	
Gross investment in tangible goods (EUR million)		1 609	334	817	6 571	13	1 951	3 817	1 425	2 716	14	13	28		388	8	
Number of persons employed (thousands) (2)	1 929	68	45	29	485	3	136	296	25	208	2	4	6	1	35	1	
Personnel costs (EUR million) (3)	90 180	4 358	423	1 557	27 132	20	5 214	15 590	1 120	9 047	31	21	38	67	488	12	
App. labour productivity (EUR thous./pers. emp.) (4)	84.1	128.6	22.0	101.3	83.8	15.0	72.3	82.5	641.2	76.7	36.1	13.8	9.9	76.0	34.0	23.4	
Average personnel costs (EUR thous./employee) (4)	45.6	62.5	9.8	53.3	56.1	6.9	39.0	52.7	44.3	45.4		4.8	6.8	45.4	14.3	15.0	
Wage adjusted labour productivity (%) (4)	184.4	205.8	225.0	190.1	149.5	217.5	185.4	156.6	1 448.8	168.8		290.3	146.6	167.6	238.6	155.7	
Gross operating rate (%) (3)	13.4	15.1	14.9	18.7	9.8	11.3	12.2	7.9	47.9	9.6	16.2	30.1	5.2	7.4	18.8	13.7	
Investment per person employed (EUR thousand)		23.5	7.4	27.9	13.6	4.4	14.4	12.9	56.2	13.1	8.2	3.0	5.0		11.1	9.1	

	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	39 763	7 394		3 919	1 768	1 135	5 600	12 740	77 406	781		1 808			5 160	27 504	
Production (EUR million)	35 842	6 689		3 628	1 692	1 079	5 161	12 960	69 348	770		1 718			5 085	28 761	
Value added at factor cost (EUR million)	8 103	2 321		992	510	220	1 592	5 711	25 635	195		417			1 615	8 226	
Gross operating surplus (EUR million)	4 135	1 015		435	177	96	755	3 445	12 428	107		176			613	3 426	
Purchases of goods and services (EUR million)	32 255	5 298		3 011	1 138	911	4 059	8 193	51 479	607		1 425			3 841	20 455	
Gross investment in tangible goods (EUR million)	1 999	418		242	146	83	395	772	3 852	106		173			297		
Number of persons employed (thousands)	72	26		22	14	18	19	43	253	29		67			15	63	
Personnel costs (EUR million)	3 968	1 307		557	333	123	836	2 266	13 207	88		241			1 003	4 800	
App. labour productivity (EUR thous./pers. emp.)	111.9	89.3		45.1	36.7	12.2	84.8	131.4	101.1	6.8		6.2			110.1	131.4	
Average personnel costs (EUR thous./employee)	55.2	50.7		25.6	24.0	6.8	44.6	52.5	52.6	3.2		3.7			68.4		
Wage adjusted labour productivity (%)	202.6	176.2		176.3	152.7	178.1	190.0	250.1	192.3	215.0		169.9			161.0		
Gross operating rate (%)	10.4	13.7		11.1	10.0	8.5	13.5	27.0	16.1	13.6		9.7			11.9	12.5	
Investment per person employed (EUR thousand)	27.6	16.1		11.0	10.5	4.6	21.0	17.8	15.2	3.7		2.6			20.3		

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001. (4) EU-25, Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 7.20

Manufacture of rubber and plastic products (NACE Division 25)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	225 928	7 181	3 954	3 236	57 771	155	17 411	36 959	1 176	34 256	81	81	319	1 158	2 381	90	
Production (EUR million) (2)	205 504	6 309	3 684	3 209	52 296	143	15 991	34 624	1 120	32 905	72	83	293	987	2 075	92	
Value added at factor cost (EUR million) (3)	72 556	1 936	1 021	1 371	19 784	38	5 359	11 115	430	9 731	32	30	64	378	609	57	
Gross operating surplus (EUR million) (3)	23 396	639	512	479	5 204	16	2 020	2 696	166	4 132	12	23	37	174	275	30	
Purchases of goods and services (EUR million)		5 174	3 030	1 890	37 742	120	12 344	25 259	745	24 852	50	63	266	790	1 811	33	
Gross investment in tangible goods (EUR million)		305	302	244	2 419	9	951	1 678	51	1 919	8	8	24		217	9	
Number of persons employed (thousands)	1 675	27	66	23	385	3	124	245	9	207	1	3	7	4	42	2	
Personnel costs (EUR million) (3)	49 160	1 297	508	892	14 580	22	3 339	8 419	263	5 598	20	7	27	204	334	26	
App. labour productivity (EUR thous./pers. emp.) (3)	43.3	64.5	15.5	58.5	51.4	11.2	43.1	45.3	45.7	46.9	26.3	12.4	8.9	95.3	14.7	31.0	
Average personnel costs (EUR thous./employee) (3)	30.5	44.3	8.1	38.4	38.3	6.7	27.6	34.4	28.2	29.9		2.8	3.8	51.4	8.5	14.5	
Wage adjusted labour productivity (%) (3)	142.2	145.7	192.4	152.6	134.4	166.9	156.3	131.7	162.0	156.8		437.0	232.3	185.4	172.5	213.5	
Gross operating rate (%) (3)	10.4	8.2	13.0	14.8	9.0	10.0	11.6	7.3	14.1	12.1	15.2	35.7	11.6	15.1	11.6	33.3	
Investment per person employed (EUR thousand)		11.2	4.6	10.4	6.3	2.7	7.6	6.8	5.5	9.3	6.1	2.9	3.3		5.2	4.9	

	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	6 399	4 749	6 196	2 150	1 096	952	2 453	3 613	31 218	255		863			979	4 561	
Production (EUR million)	5 964	4 233	5 594	2 041	986	867	2 434	3 419	29 616	244		802			940	4 652	
Value added at factor cost (EUR million)	2 032	1 669	1 767	674	266	210	1 006	1 231	11 609	54		191			333	1 862	
Gross operating surplus (EUR million)	717	571	385	293	87	107	398	325	4 132	24		91			78	512	
Purchases of goods and services (EUR million)	4 404	3 157	4 551	1 517	777	749	1 492	2 428	19 449	216		735			657	2 789	
Gross investment in tangible goods (EUR million)	297	274	403	198	60	84	148	180	1 359	30		171			49		
Number of persons employed (thousands)	35	29	120	26	14	16	18	25	234	18		40			6	24	
Personnel costs (EUR million)	1 315	1 098	1 382	381	179	103	621	906	7 477	30		100			255	1 350	
App. labour productivity (EUR thous./pers. emp.)	58.8	57.1	14.7	26.3	19.5	13.2	56.1	49.0	49.5	3.1		4.8			58.6	76.2	
Average personnel costs (EUR thous./employee)	38.1	37.9	14.0	15.0	13.8	6.5	35.0	36.9	32.4	1.8		2.6			45.0		
Wage adjusted labour productivity (%)	154.3	150.5	105.2	175.2	140.9	203.0	160.5	133.0	152.8	167.8		186.3			130.1		
Gross operating rate (%)	11.2	12.0	6.2	13.6	7.9	11.2	16.2	9.0	13.2	9.4		10.5			7.9	11.2	
Investment per person employed (EUR thousand)	8.6	9.4	3.4	7.7	4.4	5.3	8.3	7.2	5.8	1.7		4.3			8.6		

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Other non-metallic mineral products



The raw materials that are used as inputs within the manufacture of other non-metallic mineral products sector are often mined or quarried, while following their transformation they are mainly supplied to the construction sector, although some are destined for other downstream industrial activities (for example, refractory bricks are used within steel making activities, or glass is used within the manufacture of motor vehicles). Finally, some non-metallic mineral products are destined for households in the form of consumer durables (for example, ceramic tableware and glassware).

As users and importers of chemicals, non-metallic mineral product manufacturers are likely to feel the impact of the proposed new EU regulatory framework for chemicals ⁽¹⁾, known as REACH (Registration, Evaluation and Authorisation of Chemicals) – see the overview of Chapter 7 for more details. A directive of the European Parliament and Council on the energy performance of buildings ⁽²⁾ came into force on 4 January 2003 and this has an impact on many enterprises operating within the other non-metallic mineral products sector, as the goods they produce are directly used within the construction sector (for example, bricks, concrete, insulation materials).

⁽¹⁾ COM(2003) 644.

STRUCTURAL PROFILE

Other non-metallic mineral products (NACE Division 26) manufacturers generated EUR 69.3 billion of value added in the EU-25 in 2001, which was 3.9 % of the industrial (NACE Sections C to E) total. In terms of employment, the EU-25's other non-metallic mineral products manufacturing sector employed 1.6 million persons in 2001, equivalent to 4.4 % of the industrial workforce.

In 2002 the highest value added among the subchapters for which data are available ⁽³⁾ was recorded for the manufacture of cement and concrete (NACE Groups 26.5 and 26.6, see Subchapter 8.3) at EUR 28.1 billion, followed by the manufacture of glass (NACE Group 26.1, see Subchapter 8.1), and the manufacture of ceramic goods and clay products (NACE Groups 26.2 to 26.4, see Subchapter 8.2) which contributed EUR 16.3 billion and EUR 14.6 billion of value added respectively. The remaining two subchapters were considerably smaller, in terms of their output (as measured by value added), with the working of stone (NACE Group 26.7, see Subchapter 8.4) creating EUR 5.5 billion in 2002 and the manufacture of miscellaneous non-metallic mineral products (NACE Group 26.8, see also Subchapter 8.4) generating EUR 4.4 billion of value added in 2001.

⁽²⁾ Directive 2002/91/EC.

⁽³⁾ NACE Group 26.8, 2001.

This chapter focuses on the manufacture of other non-metallic mineral products (NACE Division 26). The eight NACE groups that are included in Division 26 are split between glass manufacturing (NACE Group 26.1); the manufacture of ceramic and clay products (NACE Groups 26.2 to 26.4); the manufacture of cement and concrete (NACE Groups 26.5 and 26.6); and the working of stone and miscellaneous non-metallic mineral products (NACE Groups 26.7 and 26.8). Note that the quarrying of non-metallic mineral products is covered in Chapter 3.

NACE

- 26: manufacture of other non-metallic mineral products;
- 26.1: manufacture of glass and glass products;
- 26.2: manufacture of non-refractory ceramic goods other than for construction purposes; manufacture of refractory ceramic products;
- 26.3: manufacture of ceramic tiles and flags;
- 26.4: manufacture of bricks, tiles and construction products, in baked clay;
- 26.5: manufacture of cement, lime and plaster;
- 26.6: manufacture of articles of concrete, plaster and cement;
- 26.7: cutting, shaping and finishing of ornamental and building stone;
- 26.8: manufacture of other non-metallic mineral products.

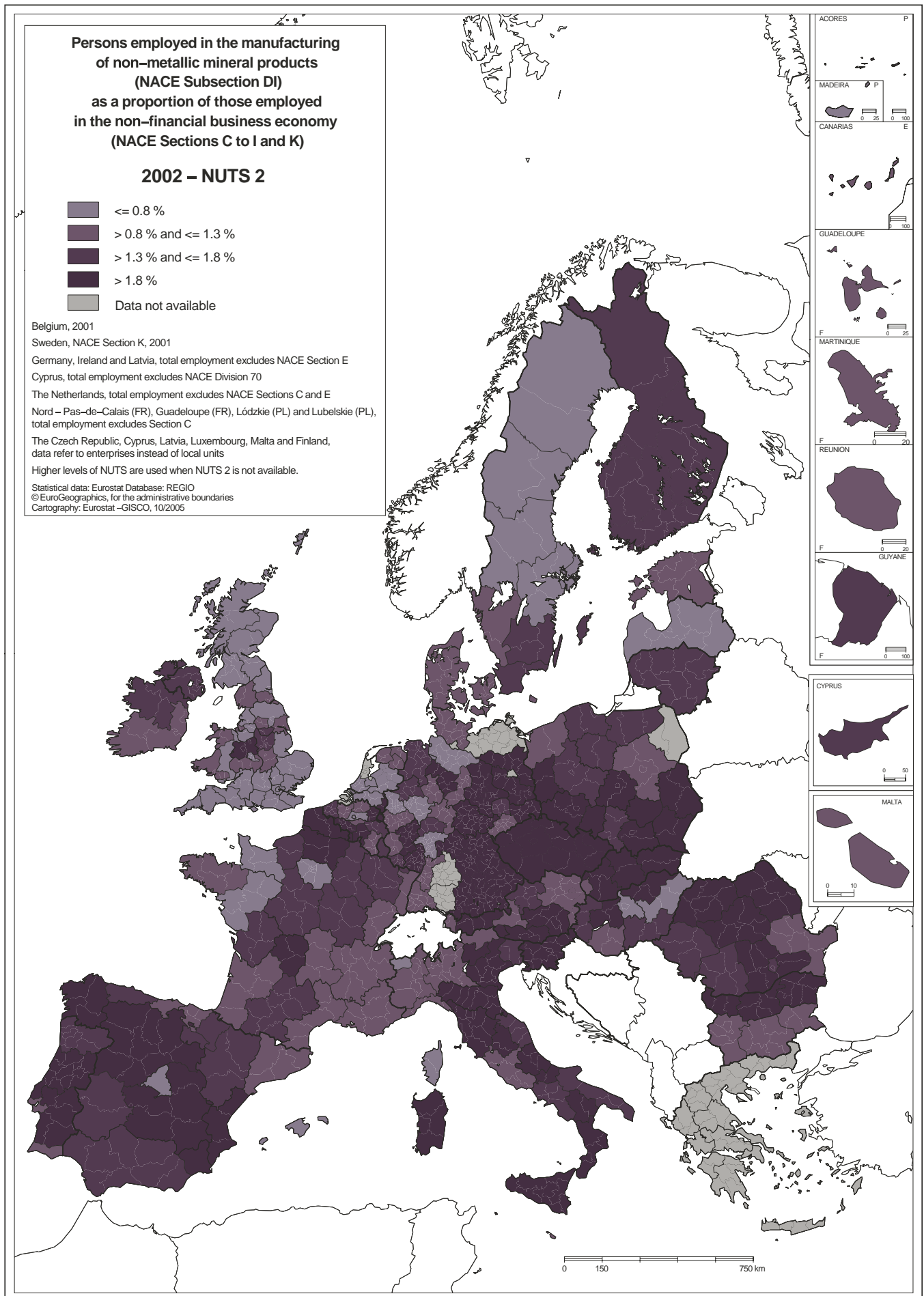


Table 8.1
Manufacture of other non-metallic mineral products (NACE Division 26)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Other non-metallic mineral products (1)	69 294	3.9	1 577	4.4
Glass and glass products	16 336	0.9	384	1.1
Ceramic goods and clay products	14 593	0.8	388	1.1
Cement and concrete	28 084	1.6	509	1.4
Cutting, shaping & finishing of ornamental & build. stone	5 492	0.3	189	0.5
Miscellaneous non-metallic mineral products (1)	4 399	0.2	94	0.3

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Germany and Italy were the largest producers of other non-metallic mineral products in 2002, with EUR 13.6 billion and EUR 12.3 billion of value added respectively; together they contributed 37.2 % of the EU-25's value added in 2001. Cyprus, Luxembourg, Portugal and Spain were all relatively specialised in the manufacture of other non-metallic mineral products, as this sector was responsible for upwards of 7.0 % of their industrial value added in 2002, whereas Sweden and the United Kingdom were relatively unspecialised by this measure ⁽⁴⁾.

Annual short-term statistics for the working day adjusted production index of other non-metallic mineral products manufacturing sector show that output was generally increasing in the EU-25 over the time series shown in Figure 8.1, the fastest pace of annual growth was posted in 1994 (5.7 %).

⁽⁴⁾ Latvia and Poland, 2001; Greece and Ireland, not available.

Table 8.2
Manufacture of other non-metallic mineral products (NACE Division 26)
Structural profile: ranking of the top 3 Member States, 2001

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (20.9)	Luxembourg (236.3)	Germany (17.8)	Luxembourg (186.3)
2	Italy (16.4)	Cyprus (234.4)	Italy (15.8)	Cyprus (164.3)
3	Spain (13.1)	Portugal (209.1)	Spain (12.4)	Spain (162.5)

(1) Greece, not available.

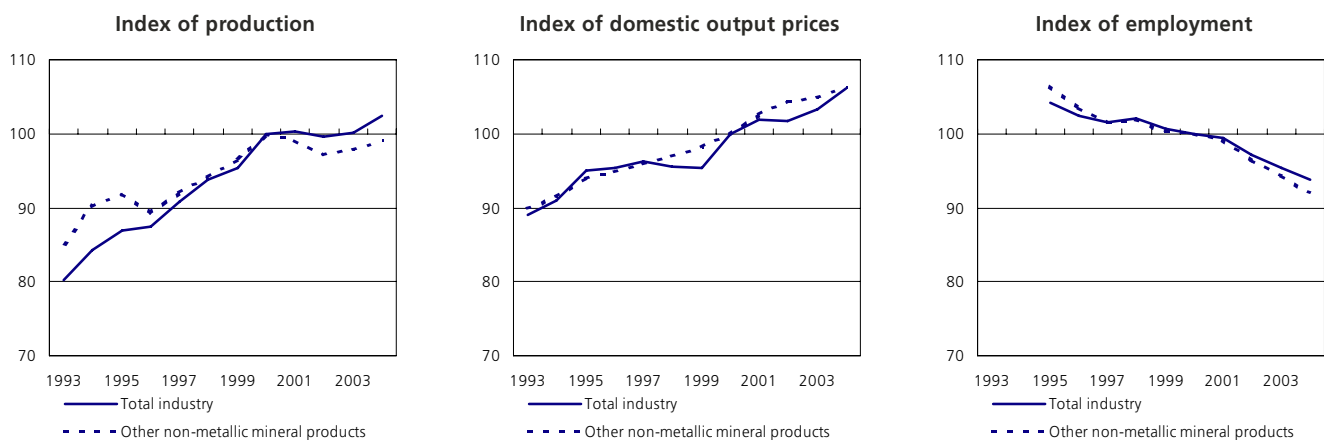
(2) Greece, Ireland and Malta, not available.

(3) Greece, Poland and Slovenia, not available.

(4) Greece, Ireland, Malta, Poland and Slovenia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

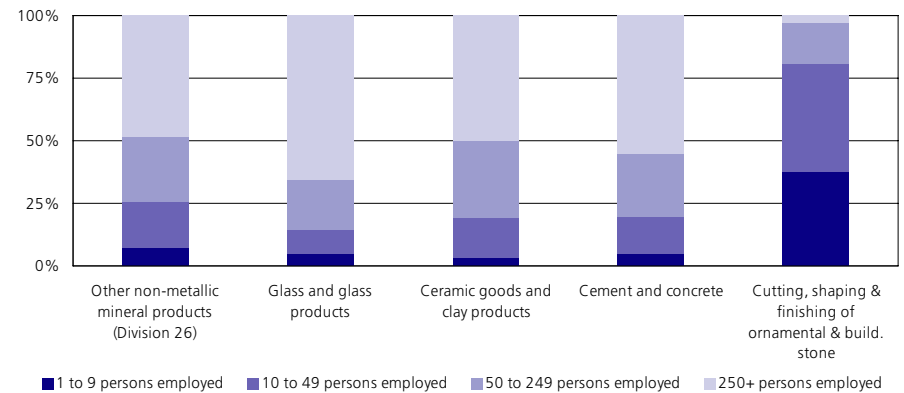
Figure 8.1
Manufacture of other non-metallic mineral products (NACE Division 26)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

However, over the 12 years observed, the EU-25's output fell on several occasions, by 2.8 % in 1996, and more recently by 0.9 % in 2001 and 2.0 % in 2002. For comparison, output for industry as a whole also contracted in 2002 although at a somewhat slower pace than for the manufacture of other non-metallic mineral products. By 2004, the production index for other non-metallic mineral products manufacturing remained below its 2000 peak whereas for industry as a whole it had passed 2.4 % above its 2000 level.

Figure 8.2
Manufacture of other non-metallic mineral products (NACE Division 26)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 8.3
Manufacture of other non-metallic mineral products (NACE Division 26)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years (2)	50+ years (3)
EU-25	77.0	108.4	95.1	102.6	9.4	69.6	21.0
BE	86.2	112.9	92.9	103.8	7.4	77.5	15.0
CZ	56.7	89.3	95.9	98.5	5.2	67.8	27.0
DK	89.3	127.1	99.4	109.1	:	69.2	43.1
DE	73.0	101.0	89.3	100.1	8.2	62.5	29.2
EE (4)	80.0	139.9	100.0	102.4	:	:	:
EL	85.3	116.4	99.5	101.2	8.7	72.7	22.0
ES	86.3	114.4	99.0	102.0	10.9	71.3	17.8
FR	79.0	110.5	96.9	102.9	8.8	70.6	20.6
IE	75.4	108.5	94.7	101.2	:	66.9	20.2
IT	76.9	108.1	95.3	101.5	10.4	72.2	17.4
CY	69.0	104.7	97.4	102.8	:	62.4	37.6
LV	91.6	156.1	100.0	105.0	:	63.2	:
LT	76.6	139.4	94.5	97.9	:	59.5	:
LU	89.3	109.4	96.4	103.3	:	69.9	:
HU	74.8	122.2	98.6	101.8	8.6	65.6	25.8
MT	:	:	:	:	:	:	:
NL	88.5	113.6	85.0	114.9	:	67.9	25.9
AT	78.7	107.1	88.7	99.4	17.9	67.6	14.5
PL	75.2	111.2	97.6	102.2	10.0	76.4	13.6
PT	70.6	119.8	98.0	100.5	10.4	72.1	20.1
SI	67.1	105.8	98.7	103.0	11.0	82.6	9.0
SK	64.9	104.8	98.3	99.7	13.1	72.5	14.4
FI	71.8	99.7	93.2	99.2	14.1	68.1	22.9
SE	78.0	104.4	96.2	105.4	:	64.7	25.0
UK	77.9	104.2	91.6	100.8	9.8	64.7	25.5

(1) Greece, Portugal and Finland, 2003; Slovenia, 2002.

(2) Lithuania, 2003.

(3) Denmark, 2003.

(4) 2001.

Source: Eurostat, Labour market, Total employment - LFS series

Table 8.4
Manufacture of other non-metallic mineral products (NACE Division 26)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (3)	Gross operating rate (%) (4)
1	Luxembourg (86.1)	Belgium (43.0)	Latvia (410.6)	Latvia (43.5)
2	Netherlands (69.5)	Austria (42.9)	Slovakia (210.2)	Poland (33.1)
3	Belgium (63.5)	Denmark (42.6)	Estonia (209.2)	Luxembourg (20.5)

(1) Belgium and Latvia, 2001; Greece and Poland, not available.

(2) Belgium, Latvia and Poland, 2001; Greece and Cyprus, not available.

(3) Belgium and Latvia, 2001; Greece, Cyprus and Poland, not available.

(4) Belgium, Latvia and Poland, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The domestic output price index for other non-metallic mineral products manufacturing recorded uninterrupted year on year growth from 1993 to 2004, contrasting with a few modest reductions registered for industry as a whole. Price increases were relatively low from 1996 to 1999, averaging 1.1 % per annum, but increased to an average of 2.1 % per annum over the next three years. In 2003 a 0.5 % increase in prices was recorded for other non-metallic mineral products manufacturing, the lowest increase for the series presented in Figure 8.1, followed by a 1.4 % increase in 2004.

There was a marked reduction in the level of employment for other non-metallic mineral products manufacturing between 1995 (the beginning of the time series) and 2004. The EU-25's index of employment fell by an average of 1.6 % per annum, and, with the exception of 0.3 % growth in 1998, a reduction was registered in each of the years analysed, the largest net losses being recorded in 1996 and 2002 (-2.7 % for both years).

An analysis by size class shows that 48.3 % of EU-25 value added for other non-metallic mineral products manufacturing was accounted for by large enterprises (with 250 or more persons employed) in 2001; some 8.9 percentage points below the industrial average. This was compensated by a higher proportion of value added being generated among small and medium-sized enterprises (with 10 to 249 persons employed), as these enterprises contributed 44.6 % of the value added generated within the sector in 2001, compared with an industrial average of 35.5 %.

EMPLOYMENT CHARACTERISTICS

In 2004 the proportion of men in the other non-metallic mineral products manufacturing workforce was 77.0 % in the EU-25, 6.0 percentage points higher than the industrial average, reflecting the physical nature of the work in some of the activities covered by this chapter, in particular the processing of construction materials. The other non-metallic mineral products manufacturing sector was characterised by a high proportion of full-time employment (95.1 %) in the EU-25 in 2004, some 2.4 percentage points above the industrial average (92.7 %).

An age breakdown reveals that 9.4 % of those employed within the EU-25's other non-metallic mineral products manufacturing sector were aged between 15 and 24, while almost seven out of ten (69.6 %) of the workforce were aged between 25 and 49, leaving 21.0 % aged 50 or more. These proportions were similar to those recorded for industry as a whole, with a somewhat higher proportion of persons aged between 25 and 49 within the other non-metallic mineral products manufacturing sector (1.2 percentage points above the industrial average).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's other non-metallic mineral products manufacturing sector was EUR 43 900 per person employed in 2001, which was EUR 4 800 below the average recorded for total industry. In 2002, the working of stone had the lowest apparent labour productivity per person employed (EUR 29 000) of the NACE groups ⁽⁵⁾ covered within this chapter, while the manufacture of cement, lime and plaster and concrete (NACE Groups 26.5) had the highest (EUR 105 800).

⁽⁵⁾ Miscellaneous non-metallic mineral products manufacturing (NACE Group 26.8), 2001.

Average personnel costs were EUR 27 800 per employee for the EU-25's other non-metallic mineral products manufacturing in 2001, lower than the manufacturing (NACE Section D) average (EUR 30 900). As a result, other non-metallic mineral products manufacturing had a relatively high wage adjusted labour productivity ratio in 2001 at 158.0 %, compared with a manufacturing average of 146.1 %.

Data are available for 2002 for most of the Member States ⁽⁶⁾ and these show that wage adjusted labour productivity ratios for other non-metallic mineral products manufacturing in Slovakia, Estonia and Luxembourg were over 200 % (in other words, apparent labour productivity was more than double average personnel costs, once adjusted for the share of employees in persons employed) and over 400 % in Latvia (2001).

The gross operating surplus divided by turnover, expressed in percentage terms, is the gross operating rate, one measure of profitability. This rate was 14.1 % for the EU-25's other non-metallic mineral products manufacturing sector in 2001, some 3.4 percentage points above the industrial average.

EXTERNAL TRADE

EU-25 exports of other non-metallic mineral products (CPA Division 26) were valued at EUR 15.7 billion and imports at EUR 8.1 billion in 2004. This represented 1.7 % of total EU-25 exports of industrial (CPA Sections C to E) goods, and 0.9 % of industrial imports. The trade surplus of the EU-25 with non-Community countries for other non-metallic mineral products was EUR 7.5 billion in 2004, which was the sixth largest surplus of all industrial CPA divisions. Moreover, a positive trade balance was registered for each of the CPA groups within other non-metallic mineral products, except for cement, lime and plaster (CPA Group 26.5) for which the EU-25 recorded a trade deficit of EUR 264 million. The largest trade surpluses, among the CPA groups, were recorded for glass (CPA Group 26.1) and ceramic tiles and flags (CPA Group 26.3), both EUR 2.5 billion.

⁽⁶⁾ Belgium and Latvia, 2001; Greece, Cyprus and Poland, not available.

Table 8.5

Other non metallic mineral products (CPA Division 26)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Other non-metallic mineral products	15 665	1.7	2.0	8 133	0.9	0.8	7 532	192.6
Glass & glass products	5 429	0.6	0.6	2 945	0.3	0.3	2 484	184.3
Ceramic goods & clay products	5 891	0.7	0.8	2 412	0.3	0.3	3 479	244.2
Cement & concrete	1 050	0.1	0.2	788	0.1	0.1	262	133.3
Cutting, shaping & finish. of ornamental & build. stone	1 341	0.1	0.2	801	0.1	0.0	540	167.4
Miscellaneous non-metallic mineral products	1 898	0.2	0.2	1 178	0.1	0.1	720	161.1

Source: Eurostat, Comext

Looking at the change in the structure of EU-25 external trade for other non-metallic mineral products between 1999 and 2004, only glass and miscellaneous non-metallic mineral products (CPA Group 26.8) increased their relative shares of other non-metallic mineral products exports, from 31.6 % to 34.7 % and from 10.6 % to 12.1 % respectively. The biggest change in the structure of imports was for stone, whose share of other non-metallic mineral products imports rose from 5.5 % to 9.8 % over the same period.

Among the Member States, the principal exporters of other non-metallic mineral products were Italy and Germany, which respectively exported EUR 9.1 billion and EUR 8.9 billion worth of these products in 2004 (intra- and extra-EU trade combined). The largest importers of these products were Germany (EUR 5.9 billion), France (EUR 5.3 billion) and the United Kingdom (EUR 4.2 billion).

8.1: GLASS

NACE Group 26.1 covers the manufacture of glass and glass products, such as flat glass, container glass, glass fibres or specialised glass.

The form and function of glass ranges from container glass (like jars and bottles), flat glass (for cars and buildings), continuous filament glass fibre (mainly used for composite materials), and domestic glass (glassware and decorative items) to special glass (for example, lighting glass, optical glass, glass for television screens or monitors). The demand for glass products is spread across a wide range of downstream activities, with a small proportion of products sold as finished products to households.

STRUCTURAL PROFILE

The EU-25's glass and glass products manufacturing sector (NACE Group 26.1, hereafter referred to as glass manufacturing) generated EUR 16.3 billion of value added in 2002 and employed 383 700 persons. In 2001 this sector accounted for a 24.1 % share of the other non-metallic mineral products (NACE Division 26) manufacturing value added, while it employed 24.9 % of the other non-metallic mineral products manufacturing workforce.

Germany, France and Italy had the largest glass manufacturing sectors in the EU ⁽⁷⁾ in 2002. However, in terms of its contribution to industrial value added, the Czech Republic, Slovakia, Belgium (2001) and Austria ⁽⁸⁾ were particularly specialised in glass manufacturing, while Latvia (2001) was least specialised.

Between 1993 and 2000, glass manufacturing in the EU-25 experienced uninterrupted output growth, as the index of production grew by an

⁽⁷⁾ Belgium and Latvia, 2001; Greece and Luxembourg, not available.

⁽⁸⁾ Belgium and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

average of 3.5 % per annum, which was higher than the corresponding rate for other non-metallic mineral products manufacturing which stood at 2.3 % over the same period. A modest contraction in output was recorded in 2001 and 2002, while growth returned to the glass manufacturing sector during the years 2003 (0.3 %) and 2004 (1.0 %).

PRODUCTIVITY AND PROFITABILITY

The wage adjusted labour productivity ratio shows the relationship between value added per person employed and personnel costs per employee. This ratio stood at 145.4 % in 2002 in the EU-25's glass manufacturing sector, which was 5.1 percentage points above the

Table 8.6

Manufacture of glass and glass products (NACE Group 26.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (23.1)	Czech Republic (289.8)	Germany (18.6)	Czech Republic (231.5)
2	France (16.8)	Slovakia (194.1)	France (13.4)	Slovakia (161.9)
3	Italy (13.1)	Austria (170.8)	Italy (12.2)	Belgium (153.4)

(1) Belgium and Latvia, 2001; Greece and Luxembourg, not available.

(2) Belgium and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

(3) Greece and Luxembourg, not available.

(4) Latvia, 2001; Greece, Ireland and Luxembourg, not available.

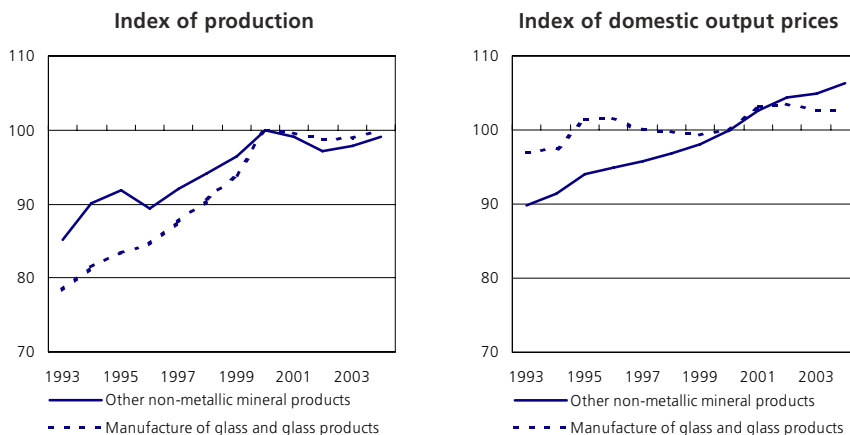
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 8.7
Production value of selected glass and glass products (CPA Group 26.1), EU-25, 2003 (EUR million)

	Prodcom code	
Non-wired sheets of float glass & surface ground/polished glass, having an absorbent/reflecting layer, not otherwise worked, thickness >3.5mm excl. horticultural sheet glass	26.11.12.17	1 194.8
Multiple-walled insulating units of glass	26.12.13.30	3 497.2
Laminated safety glass for use in aircraft; spacecraft; ships or boats	26.13.12.55	890.5
Nonwoven glass fibre webs; felts; mattresses and boards	26.14.12.50	761.0
Glass smallware (incl. beads, imitation pearls/stones, ...)	26.15.26.70	631.2

Source: Eurostat, PRODCOM

Figure 8.3
Manufacture of glass and glass products (NACE Group 26.1)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

8.2: CERAMIC AND CLAY PRODUCTS

This subchapter includes information on three NACE groups: the manufacture of non-refractory ceramic goods other than for construction purposes and of refractory ceramic products (NACE Group 26.2); the manufacture of ceramic tiles and flags (NACE Group 26.3); the manufacture of clay bricks and tiles, as well as other construction products made of clay (NACE Group 26.4). Hereafter these activities are collectively referred to as ceramic and clay products manufacturing.

The largest share of output of this sector goes to the construction sector, for example, as bricks, tiles and sanitary ware. Therefore, the development of ceramic and clay products manufacturing is closely linked to the evolution of construction activity, particularly building. Demand for ceramic ornaments and tableware comes from households, as well as hotels, restaurants and institutional users, such as hospitals. Refractory products are supplied to other manufacturers that use high temperatures for their own production, for example, the steel, cement and glass manufacturing sectors.

STRUCTURAL PROFILE

Ceramic and clay products manufacturing (NACE Groups 26.2 to 26.4) in the EU-25 generated EUR 14.6 billion of value added in 2002 and employed 388 000 persons. In 2001 this sector contributed 21.2 % of other non-metallic mineral products (NACE Division 26) manufacturing value added and employed one quarter (25.8 %) of the other non-metallic mineral products manufacturing workforce.

In terms of value added, the largest subsector within the EU-25's ceramic and clay products manufacturing sector was the manufacture of non-refractory ceramic goods other than for construction purposes and of refractory ceramic products (NACE Group 26.2), which accounted for 44.6 % of sectoral value added in 2002.

In 2002 Italy generated more than one quarter of the EU-25's value added in ceramic and clay products manufacturing, while Spain (17.9 %) and Germany (16.2 %) were the next largest contributors to the EU-25 total. Among the Member States with available data⁽⁹⁾, Portugal

manufacturing (NACE Section D) average. The gross operating rate for glass manufacturing was 12.9 % in 2002, which was 2.9 percentage points above the industrial average.

EXTERNAL TRADE

The EU-25 recorded a EUR 2.5 billion trade surplus in 2004 for glass and glass products (CPA Group 26.1), which was the largest surplus among the CPA groups within other non-metallic mineral products. Germany, the Czech Republic and Belgium recorded the largest trade surpluses (intra- and extra-EU trade combined), while the United Kingdom had the largest trade deficit.

and Spain were the most specialised in ceramic and clay products manufacturing in terms of this sector's contribution to industrial value added, while Belgium and Slovenia were the least specialised Member States in this respect.

The three NACE groups covered by this subchapter showed contrasting fortunes as regards the overall trend in their output in the EU-25 between 1993 and 2004 – see Figure 8.4 overleaf – with all three recording a relatively volatile evolution for their respective indices of production, alternating between relatively short periods of growth and contraction. The most significant decline in output was registered for non-refractory ceramic goods other than for construction purposes and of refractory ceramic products, where EU-25 production stood 16.5 % lower in 2004 than it had been at its peak in 1995.

⁽⁹⁾ Belgium and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Malta, Austria, Finland and Sweden, not available.

Table 8.8
Manufacture of ceramic goods and clay products (NACE Groups 26.2 to 26.4)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Ceramic goods and clay products	14 593	0.8	388	1.1
Ceramics other than non-refractory for construction	6 514	0.4	211	0.6
Ceramic tiles and flags	4 234	0.2	95	0.3
Bricks, tiles and construction products	3 845	0.2	82	0.2

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's ceramic and clay products manufacturing sector was EUR 37 600 per person employed in 2002. Average personnel costs ranged from EUR 25 300 per employee for the manufacture of non-refractory ceramic goods other than for construction purposes and of refractory ceramic products to EUR 29 300 for the manufacture of ceramic tiles and flags. The gross operating rate in ceramic goods and clay products manufacturing was 12.8 % in 2002: ranging from 9.5 % for the manufacture of non-refractory ceramic goods other than for construction purposes and of refractory ceramic products to double this rate, at 19.2 %, for the manufacture of clay bricks and tiles.

EXTERNAL TRADE

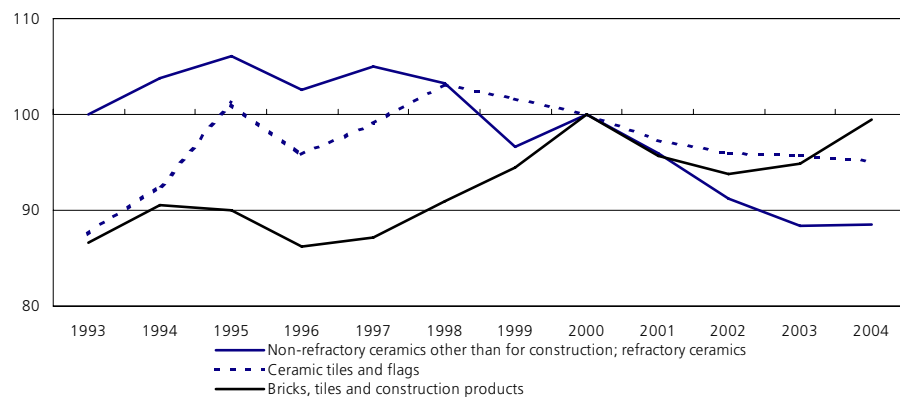
Ceramic and clay products (CPA Groups 26.2 to 26.4) registered a trade surplus of EUR 3.5 billion in the EU-25 in 2004. All of the three CPA groups that compose ceramic and clay products recorded a trade surplus, the highest being for ceramic tiles and flags (CPA Group 26.3) at EUR 2.5 billion.

Table 8.9
Production value of selected ceramic goods and clay products
(CPA Groups 26.2 to 26.4), EU-25, 2003 (EUR million)

	Prodcom code	
Porcelain or china tableware and kitchenware (excl. electro-thermic apparatus, coffee or spice mills with metal working parts)	26.21.11.30	1 555.6
Ceramic tableware, other household articles; common pottery	26.21.12.10	279.5
Other ceramic articles (common pottery) incl. heating apparatus, non-refractory firebrick cheeks, stoves/fireplaces parts, flower-pots, handles/knobs, shops signs, radiator humidifiers	26.25.12.55	231.5
Refractory cements; mortars; concretes and similar compositions (incl. refractory plastics, ramming mixes, gunning mixes) (excl. carbonaceous pastes)	26.26.13.00	928.2
Refractory ceramic constructional goods containing >50% of MgO, CaO or Cr2O3 incl. bricks, blocks and tiles excl. goods of siliceous fossil meals or earths, tubing and piping	26.26.12.10	791.4
Glazed stoneware flags and paving; hearth or wall tiles; with a face of <= 90 cm²	26.30.10.73	3 404.9
Non-refractory clay roofing tiles	26.40.12.50	2 152.6

Source: Eurostat, PRODCOM

Figure 8.4
Manufacture of ceramic goods and clay products (NACE Groups 26.2 to 26.4)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

8.3: CEMENT AND CONCRETE

This subchapter covers the manufacture of cement, lime and plaster (NACE Group 26.5) as well as the manufacture of articles made from concrete, plaster and cement (NACE Group 26.6).

Products manufactured by enterprises active within this area of the industrial economy range from clinkers and hydraulic cements to precast concrete, cement or artificial stone articles, mortars to vegetal substances agglomerated with cement, plaster or other mineral binder.

STRUCTURAL PROFILE

The EU-25's cement and concrete manufacturing (NACE Groups 26.5 and 26.6) generated EUR 28.1 billion of value added in 2002 and employed 509 000 persons. In 2001 this sector contributed two fifths (40.3 %) of other non-metallic mineral products (NACE Division 26) manufacturing value added and employed almost one third (31.7 %) of the other non-metallic mineral products manufacturing workforce.

More than two third (69.5 %) of the EU-25's cement and concrete manufacturing value added in 2002 came from the manufacture of articles of concrete, plaster and cement (NACE Group 26.6), while the manufacture of cement, lime and plaster (NACE Group 26.5) accounted for the remaining share.

Among the Member States with available data for 2002 ⁽¹⁰⁾, the highest contribution to the EU-25's cement and concrete manufacturing value added was from Germany (18.1 %), while Italy (16.0 %), Spain (14.1 %) and France (12.0 %) also contributed double-digit shares. However, Cyprus was by far the most specialised Member State for the manufacture of cement and concrete, as 6.1 % of its industrial value added was derived from this sector in 2002 (compared with an EU-25 average of 1.6 %). In Portugal, cement and concrete manufacturing accounted for 3.4 % of industrial value added, while the

corresponding ratio for Spain was 3.2 %. In contrast, the United Kingdom and Sweden were the least specialised Member States, as this sector generated 1.0 % and 1.1 % of their industrial value added respectively. Although no Greek structural business statistics are available for a recent year, it should be noted that Greece is also relatively specialised in this activity, and this is indicated to some extent by the high export specialisation of Greece for cement and concrete products (see the section on external trade below).

⁽¹⁰⁾ Belgium, Cyprus and Austria, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta, the Netherlands and Finland, not available.

Table 8.10

Manufacture of cement, lime and plaster; articles of concrete, plaster, cement (NACE Groups 26.5 and 26.6)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Cement and concrete	28 084	1.6	509	1.4
Cement, lime and plaster	8 578	0.5	81	0.2
Articles of concrete, plaster, cement	19 506	1.1	428	1.2

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 8.11

Manufacture of cement, lime and plaster; articles of concrete, plaster, cement
(NACE Groups 26.5 and 26.6)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (1)	Share of EU-25 employment (%) (2)	Industrial employment specialisation (EU-25=100) (3)
1	Germany (18.1)	Cyprus (384.2)	Germany (18.3)	Cyprus (297.8)
2	Italy (16.0)	Portugal (210.2)	Italy (13.6)	Spain (163.8)
3	Spain (14.1)	Spain (201.7)	Spain (12.5)	Belgium (158.9)

(1) Belgium, Cyprus and Austria, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta, the Netherlands and Finland, not available.

(2) Cyprus and Austria, 2001; Denmark, Estonia, Greece, Ireland, Luxembourg, Malta, the Netherlands and Finland, not available.

(3) Cyprus and Austria, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta, the Netherlands and Finland, not available.

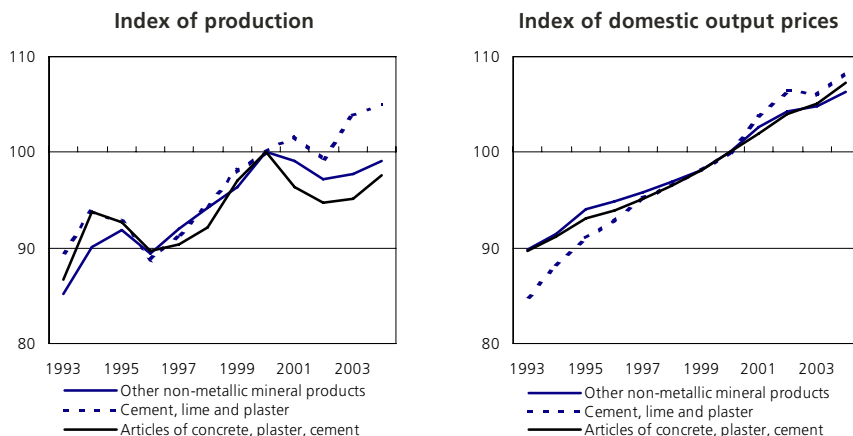
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 8.12
Production value of selected cement and concrete products (CPA Groups 26.5 and 26.6), EU-25, 2003 (EUR million)

	Prodcom code	
White Portland cement	26.51.12.10	430.7
Grey Portland cement (incl. blended cement)	26.51.12.30	12 192.8
Other hydraulic cements	26.51.12.90	1 392.1
Quicklime	26.52.10.33	1 141.1
Slaked lime	26.52.10.35	363.7
Plasters consisting of calcined gypsum or calcium sulphate (incl. for use in building, for use in dressing woven fabrics or surfacing paper, for use in dentistry)	26.53.10.00	918.9
Pipes and other articles of cement, concrete or artificial stone, and accessories	26.60.13.Z1	2 650.4
Tiles; flagstones and similar articles of cement; concrete or artificial stone (excl. building blocks and bricks)	26.61.11.50	5 179.6
Prefabricated buildings of cement	26.61.20.00	2 838.0
Boards, sheets, panels, tiles, similar articles of plaster/compositions based on plaster, faced/reinforced with paper/paperboard only excl. articles agglom. with plaster, ornamented	26.62.10.50	2 121.4
Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste of wood, agglomerated with cement, plaster or other mineral binders	26.65.11.00	232.3
Sheets; panels; tiles and similar articles; of asbestos-cement; cellulose fibre-cement; vegetable fibres; synthetic polymer; glass or metallic fibres	26.65.12.30	720.4
Articles of plaster or compositions based on plaster, n.e.c.	26.66.11.00	188.4

Source: Eurostat, PRODCOM

Figure 8.5
Manufacture of cement, lime and plaster; articles of concrete, plaster, cement (NACE Groups 26.5 and 26.6)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Annualised short-term statistics can be used to trace the evolution of the indices of production for the two NACE groups that make up cement and concrete manufacturing; a time series is available from 1993 to 2004 for the EU-25 and is shown in Figure 8.5. While the index of production for both activities decreased from 1994 to 1996, output grew on average by 2.7 % per annum for cement, lime and plaster manufacturing from 1997 to 2001, while it expanded on average by 3.4 % per annum for the manufacture of articles of concrete, plaster and cement from 1997 to 2000. The index of production contracted by 2.2 % in 2002 for cement, lime and plaster manufacturing and by 3.6 % and 1.7 % in 2001 and 2002 for the

manufacture of articles of concrete, plaster and cement. Both activities saw their production recover in 2003 and expand further in 2004.

The domestic output price index rose each year from 1993 to 2004 for the EU-25's manufacture of articles of concrete, plaster and cement, on average by 1.6 % per annum, slightly above the average growth for the whole of other non-metallic mineral products manufacturing. The pace of domestic output price increases was faster for the manufacture of cement, lime and plaster, as prices grew on average by 2.2 % per annum over the same period, despite a modest reduction in 2003.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 55 200 per person employed for the EU-25's manufacture of cement and concrete in 2002; which was EUR 6 100 per person employed above the industrial (NACE Sections C to E) average. Particularly high apparent labour productivity (EUR 105 800) was recorded for the manufacture of cement, lime and plaster; indeed, this was the fourth highest labour productivity among all industrial NACE groups for which data are available. The wage adjusted labour productivity ratio shows the relation between apparent labour productivity and average personnel costs, and this was 253.6 % for the EU-25's cement, lime and plaster manufacturing subsector in 2002, while the ratio was 152.8 % for the manufacture of articles of concrete, plaster and cement subsector.

In 2002, the gross operating rate - which represents the percentage relation between the gross operating surplus and turnover - was 14.7 % in the EU-25's cement and concrete manufacturing sector.

EXTERNAL TRADE

The EU-25's trade surplus for cement and concrete (CPA Groups 26.5 and 26.6) was valued at EUR 262 million in 2004, resulting from EUR 1.1 billion of exports of these products to non-Community countries and EUR 788 million of imports. The trade surplus for these products was the result of a trade deficit of EUR 264 million for cement, lime and plaster (CPA Group 26.5) and a trade surplus of EUR 526 million for articles of concrete, plaster and cement (CPA Group 26.6). In 2004, almost two thirds (64.1 %) of exports of cement and

Table 8.13

Cement, lime and plaster; articles of concrete, plaster and cement (CPA Groups 26.5 and 26.6)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Cement and concrete	1 050	0.1	0.2	788	0.1	0.1	262	133.3
Cement, lime & plaster	377	0.0	0.1	640	0.1	0.0	-264	58.8
Articles of concrete, plaster & cement	673	0.1	0.1	147	0.0	0.0	526	456.7

Source: Eurostat, Comext

concrete from the EU-25 were articles of concrete, plaster and cement. The EU-25's imports of cement and concrete were more concentrated on cement, lime and plaster, which accounted for 81.3 % of all cement and concrete imports.

In 2004, the highest share of exports of cement and concrete were made by Germany (21.4 % of intra- and extra-EU trade combined) and Belgium (15.8 %). Cyprus and Greece were the most specialised Member States in exporting cement and concrete, as these products accounted for 1.1 % and 1.0 % respectively of industrial exports within CPA Sections C and D,

(no data available for CPA Section E) compared with an average of less than 0.2 % for the EU-25 as a whole. The largest importer of these products was France, which imported 13.1 % of the imports of cement and concrete by EU-25 Member States, followed by the Netherlands (10.6 %) and Spain (10.4 %).

8.4: STONE AND MISCELLANEOUS NON-METALLIC MINERAL PRODUCTS

This subchapter covers separately the activities of cutting, shaping and finishing stone (NACE Group 26.7), hereafter referred as the working of stone, and the manufacture of other non-metallic mineral products (NACE Group 26.8), hereafter referred as the manufacture of miscellaneous non-metallic mineral products; this latter group includes the production of abrasive products, non-metallic mineral yarns, and mineral insulating materials (be they for heat or sound insulation).

Italy, Spain and Germany were the largest Member States ⁽¹⁾ in terms of value added in 2002, together generating 65.6 % of the EU-25's value added. However, Portugal, Cyprus, Spain and Italy were the most specialised Member States ⁽²⁾ in this activity, as value added generated by the working of stone represented at least 0.7 % of their industrial value added, more than double the EU-25 average of 0.3 %.

⁽¹⁾ Belgium and Latvia, 2001; Greece, not available.

⁽²⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

The EU-25's index of production for the working of stone increased on average by 2.3 % per annum between 1993 and 1997, while it decreased on average by 1.9 % per annum between 1998 and 2004.

The EU-25's external trade of monumental and building stone products (CPA Group 26.7) with non-Community countries registered a surplus of EUR 540 million in 2004. Italy exported more than half of the exports of these products (intra- and extra-EU trade combined) made by EU-25 Member States, while Germany accounted for more than one fifth of the imports made by EU-25 Member States in 2004.

WORKING OF STONE

The EU-25's enterprises active in the working of stone (NACE Group 26.7) generated EUR 5.5 billion of value added in 2002 and employed 189 300 persons. In 2001 this sector contributed 8.1 % of the value added within the other non-metallic mineral products (NACE Division 26) manufacturing sector and employed 11.7 % of its workforce.

Table 8.14

Cutting, shaping and finishing of ornamental and building stone (NACE Group 26.7)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Italy (28.1)	Portugal (325.4)	Italy (26.4)	Portugal (297.1)
2	Spain (20.8)	Cyprus (300.6)	Spain (20.4)	Spain (267.5)
3	Germany (16.7)	Spain (296.4)	Germany (14.2)	Cyprus (210.1)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 8.15
Manufacture of miscellaneous non-metallic mineral products (NACE Group 26.8)
Structural profile: ranking of the top 3 Member States, 2001

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (35.0)	Slovenia (407.8)	Germany (25.3)	Luxembourg (251.1)
2	United Kingdom (12.6)	Luxembourg (231.4)	Italy (11.9)	Austria (188.7)
3	Italy (10.6)	Austria (224.9)	United Kingdom (11.5)	Denmark (155.3)

(1) Greece and Latvia, not available.

(2) Greece, Ireland, Latvia and Malta, not available.

(3) Greece, Latvia and Slovenia, not available.

(4) Greece, Ireland, Latvia, Malta and Slovenia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 8.16
Production value of selected stone and miscellaneous non-metallic mineral products (CPA Groups 26.7 and 26.8), EU-25, 2003 (EUR million)

	Prodcom code	
Worked monumental/building stone & articles thereof, in marble, travertine & alabaster excl. tiles, cubes/similar articles, largest surface <7cm², setts, kerbstones, flagstones	26.70.11.00	2 842.4
Natural or artificial abrasive powder or grain; on a base of woven textile fabric only	26.81.12.30	409.2
Natural or artificial abrasive powder or grain; on a base of paper or paperboard only	26.81.12.50	466.9
Roofing or water-proofing felts based on bitumen (in rolls)	26.82.12.53	1 536.8
Bituminous mixtures based on natural and artificial aggregate and bitumen or natural asphalt as a binder	26.82.13.00	2 545.7
Slag wool; rock wool and similar mineral wools and mixtures thereof; in bulk; sheets or rolls	26.82.16.10	1 642.3

Source: Eurostat, PRODCOM

MANUFACTURE OF MISCELLANEOUS NON-METALLIC MINERAL PRODUCTS

In 2001, miscellaneous non-metallic mineral products manufacturing (NACE Group 26.8) generated EUR 4.4 billion of value added in the EU-25, contributing 6.3 % of the total for other non-metallic mineral products (NACE Division 26) manufacturing. More than one third (35.0 %) of the EU-25's value added came from Germany in 2001, while German value added was valued at EUR 1.4 billion in 2002. In terms of industrial value added specialisation, Slovenia stood out from the rest of the Member States in 2002 ⁽¹³⁾ as the manufacture of miscellaneous non-metallic mineral products accounted for 1.0 % of its industrial (NACE Sections C to E) value added, compared with an EU-25 average of 0.2 % (2001).

Annualised short-term statistics show there was a general upward trend between 1993 and 2004 for miscellaneous non-metallic mineral products manufacturing in the EU-25, growing on average by 1.6 % per annum, while contractions in output were recorded for four years, most notably in 1996, when production declined by 6.5 %.

The EU-25's trade surplus for miscellaneous non-metallic mineral products (CPA Group 26.8) with non-Community countries was valued EUR 720 million in 2004. Among the Member States, Germany recorded the largest trade surplus (EUR 618 million, intra- and extra-EU trade combined) despite being the largest importer, accounting for one fifth of the imports of these products by EU-25 Member States.

⁽¹³⁾ Belgium and Poland, 2001; Greece, Ireland and Latvia, not available.

Table 8.17

Manufacture of other non-metallic mineral products (NACE Division 26)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT	
Turnover (EUR million) (2)	196 024	7 483	4 065	2 705	39 215	222	:	27 465	25 169	1 764	38 307	323	119	212	608	1 722	69	
Production (EUR million) (2)	185 827	7 164	3 896	2 621	35 627	204	:	26 518	23 354	1 642	37 434	317	130	212	597	1 555	68	
Value added at factor cost (EUR million) (3)	69 294	2 338	1 413	1 096	13 567	72	:	9 473	7 967	697	12 325	122	66	69	241	573	24	
Gross operating surplus (EUR million) (3)	27 721	841	762	355	3 289	38	:	4 557	2 530	322	6 004	63	50	24	124	304	12	
Purchases of goods and services (EUR million)	:	4 959	2 746	1 666	25 405	151	:	18 512	16 920	1 052	25 988	207	84	144	364	1 163	44	
Gross investment in tangible goods (EUR million)	:	455	291	164	1 770	26	:	1 806	1 120	96	2 685	42	16	24	:	142	3	
Number of persons employed (thousands) (2)	1 577	33	87	18	265	5	:	194	148	11	250	3	4	10	3	34	1	
Personnel costs (EUR million) (3)	41 573	1 497	652	741	10 279	34	:	4 916	5 437	375	6 321	59	16	45	117	270	13	
App. labour productivity (EUR thous./pers. emp.) (3)	43.9	63.5	16.3	61.7	51.1	15.6	:	48.8	53.8	63.0	49.4	42.1	16.7	6.8	86.1	17.1	17.5	
Average personnel costs (EUR thous./employee) (3)	27.8	43.0	8.3	42.6	39.9	7.5	:	26.3	37.4	34.3	30.0	:	4.1	4.6	41.9	8.7	10.1	
Wage adjusted labour productivity (%) (3)	158.0	147.4	195.5	145.0	128.0	209.2	:	185.5	143.9	183.9	164.6	:	410.6	147.4	205.8	197.1	172.6	
Gross operating rate (%) (3)	14.1	11.1	18.7	13.1	8.4	17.0	:	16.6	10.1	18.3	15.7	:	19.4	43.5	11.3	20.5	17.6	16.8
Investment per person employed (EUR thousand)	:	13.7	3.4	9.2	6.7	5.7	:	9.3	7.6	8.7	10.8	:	14.6	4.0	2.3	:	4.2	1.8
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH	
Turnover (EUR million)	6 424	5 343	6 258	4 804	643	941	2 523	3 203	18 244	454	:	1 217	:	:	:	2 152	3 192	
Production (EUR million)	5 880	4 994	6 059	4 576	620	893	2 457	2 988	17 200	445	:	1 209	:	:	:	1 994	3 177	
Value added at factor cost (EUR million)	2 232	2 249	3 134	1 829	183	302	959	1 084	7 174	121	:	410	:	:	:	725	1 410	
Gross operating surplus (EUR million)	922	737	2 072	891	43	158	398	333	2 930	65	:	199	:	:	:	207	390	
Purchases of goods and services (EUR million)	4 176	3 243	3 291	3 102	426	633	1 600	2 144	10 864	357	:	878	:	:	:	1 452	1 762	
Gross investment in tangible goods (EUR million)	334	359	611	465	50	79	141	188	1 102	54	:	153	:	:	:	128	:	
Number of persons employed (thousands)	32	36	:	67	10	24	16	20	130	23	:	79	:	:	:	11	19	
Personnel costs (EUR million)	1 310	1 512	1 061	939	140	143	567	750	4 418	56	:	211	:	:	:	518	1 020	
App. labour productivity (EUR thous./pers. emp.)	69.5	62.2	:	27.1	17.9	12.6	59.5	53.2	55.0	5.3	:	5.2	:	:	:	68.2	73.6	
Average personnel costs (EUR thous./employee)	41.9	42.9	7.9	14.4	14.1	6.0	35.8	38.8	34.7	2.6	:	2.7	:	:	:	48.9	:	
Wage adjusted labour productivity (%)	165.7	145.1	:	188.6	126.9	210.2	166.4	137.1	158.6	206.5	:	190.7	:	:	:	139.3	:	
Gross operating rate (%)	14.4	13.8	33.1	18.5	6.6	16.8	15.8	10.4	16.1	14.2	:	16.4	:	:	:	9.6	12.2	
Investment per person employed (EUR thousand)	10.4	9.9	:	6.9	4.9	3.3	8.8	9.2	8.5	2.4	:	1.9	:	:	:	12.0	:	

(1) Poland and Switzerland, 2001. (2) EU-25, 2001. (3) EU-25, Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Metals and metal products



The EU is deficient in deposits of many raw minerals from which metals are derived, and as a result its refining activity often depends on imports, as well as recycling waste and scrap materials (see Subchapter 14.1). Metals activities faced supply shortages and rising prices during 2004, which particularly affected the price of steel, as well as raw materials such as iron ore or copper; this trend was often attributed to rapid growth in demand from China.

The main downstream sectors that use metals and metal products include machinery and equipment manufacturing, transport equipment manufacturing, and the construction sector, while a wide range of manufacturing sectors use metals and metal products as packaging for their own output. A relatively small share of output is destined for households, in the form of products like cutlery, saucepans or tools for home improvements.

The competitiveness of the European metal and metal products manufacturing sector is closely linked to energy policy and pricing, given the energy-intensive nature of many activities in this sector, in particular those at the start of the production chain. As such, the Kyoto protocol obligations play an important role in the cost profile of those operating in this sector. Other environmental issues which impact on manufacturers of metals and metal products include recycling and end of life procedures, as well as efficiency gains through 'lightweighting' which uses technological developments to reduce the volume of metal used, for example, limiting the thickness of aluminium cans for beverages.

The European Steel and Coal Community (ECSC) treaty entered into force in 1952 and expired on 23 July 2002, since when ECSC industries have been treated as any other industrial activity within the European Union, reflecting the decline in the strategic

In previous editions of European business, NACE Divisions 27 and 28 which cover the manufacture of basic metals and the manufacture of fabricated metal products (except machinery and equipment, see Chapter 10), were covered by two separate chapters; these activities have been merged into one chapter for this edition.

The manufacture of basic metals (NACE Division 27) includes activities such as the manufacture of iron, steel and ferro-alloys, as well as basic precious and non-ferrous metals; it also includes first processing stages of metal manufacturing (such as the manufacture of tubes, bars, strips, wires, and sheets of metal, as well as casting). The downstream activity of the manufacture of fabricated metal products (NACE Division 28) covers the production of structural metal products; boilers, metal containers and steam generators; forging, pressing, stamping and roll forming of metal; the treatment and coating of metal and general mechanical engineering (such as turning, milling, or welding); the manufacture of cutlery, tools and general hardware; and the manufacture of other fabricated metal products (such as metal drums, metal packaging, wire products, and household articles of metal).

Note that there are no external trade statistics for a number of industrial services covered in this chapter: foundry work services (CPA Group 27.5), forging, pressing, stamping and roll forming metal services (CPA Group 28.4) and treatment and coating of metal services; general mechanical engineering services (CPA Group 28.5).

NACE

- 27: manufacture of basic metals;
- 27.1: manufacture of basic iron and steel and of ferro-alloys;
- 27.2: manufacture of tubes;
- 27.3: other first processing of iron and steel;
- 27.4: manufacture of basic precious and non-ferrous metals;
- 27.5: casting of metals;
- 28: manufacture of fabricated metal products, except machinery and equipment;
- 28.1: manufacture of structural metal products;
- 28.2: manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers;
- 28.3: manufacture of steam generators, except central heating hot water boilers;
- 28.4: forging, pressing, stamping and roll forming of metal; powder metallurgy;
- 28.5: treatment and coating of metals; general mechanical engineering;
- 28.6: manufacture of cutlery, tools and general hardware;
- 28.7: manufacture of other fabricated metal products.

importance of the metal manufacturing industries, as well as the progressive privatisation of publicly held enterprises within this activity. One consequence has been that the collection and processing of statistical information in this area has been subsequently merged into mainstream business statistics.

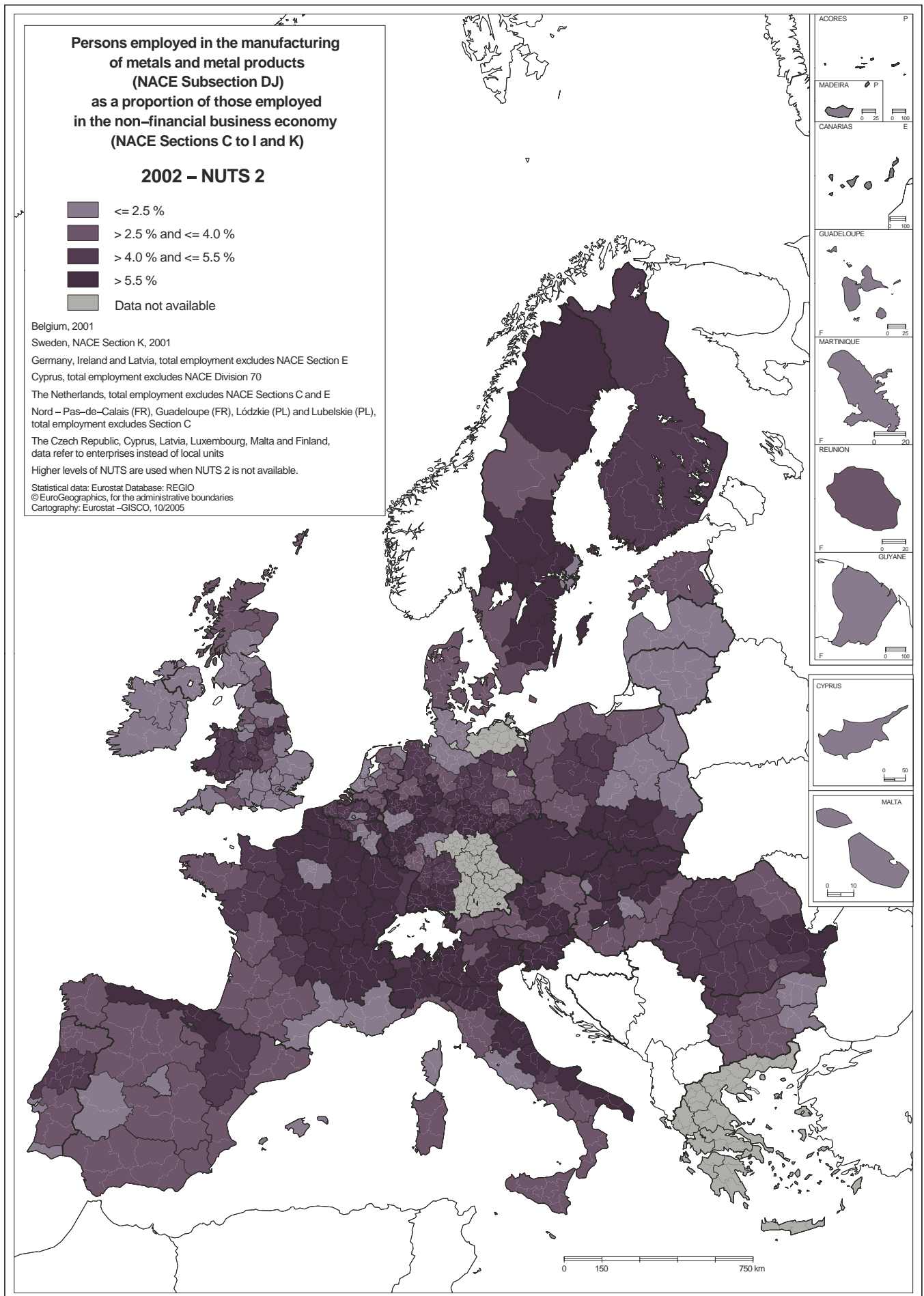


Table 9.1

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Basic metals and fabricated metal products	192 707	10.9	4 786	13.3
Basic metals (1)	55 958	3.2	1 091	3.0
Manufacture & first processing of ferrous metals	29 365	1.7	589	1.6
Basic precious and non-ferrous metals (2)	15 096	0.9	223	0.6
Casting of metals	10 449	0.6	275	0.8
Fabricated metal products (1)	137 969	7.8	3 700	10.3
Structural metal products	32 871	1.9	978	2.7
Boilers, metal containers and steam generators (3)	12 197	:	296	0.8
Miscellaneous metal products	94 284	5.4	2 426	6.8

(1) Value added and share of industrial value added, 2001.

(2) Value added and share of industrial value added, 2000.

(3) Manufacture of tanks, reservoirs and containers of metal; central heating radiators and boilers (NACE Group 28.2), 2001 for value added.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The EU-25's metals and metal products manufacturing sector (NACE Subsection DJ) generated EUR 192.7 billion of value added in 2002, which equated to 10.9 % of the industrial (NACE Sections C to E) total. In employment terms, the relative importance of this sector was considerably higher, as the 4.8 million persons employed represented 13.3 % of the industrial workforce. A simple breakdown of activity between the two NACE divisions that compose Subsection DJ shows that the manufacture of fabricated metal products (NACE Division 28) was considerably larger than the manufacture of basic metals (NACE Division 27), with a 71.1 % share of EU-25 sectoral value added in 2001, and a 77.3 % share of sectoral employment in 2002.

The treatment and coating of metals and general mechanical engineering (NACE Group 28.5) had an 18.4 % share of sectoral value added in 2002, which was the largest among those NACE groups covered by this chapter. This activity, together with the remaining three miscellaneous metal products manufacturing subsectors that are presented in Subchapter 9.6 (NACE Groups 28.4 to 28.7) accounted for 48.9 % of the value added in the metals and metal products manufacturing sector and for 50.7 % of sectoral employment. The second largest NACE group within the metals and metal products manufacturing sector in 2002 was the manufacture of structural metal products (NACE Group 28.1, see Subchapter 9.4) which had a 17.1 % share of sectoral value added.

Table 9.2

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (27.2)	Luxembourg (243.9)	Germany (21.8)	Luxembourg (223.9)
2	Italy (16.9)	Italy (153.5)	Italy (17.2)	Italy (124.3)
3	France (13.4)	Czech Republic (120.0)	France (12.2)	Spain (116.6)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

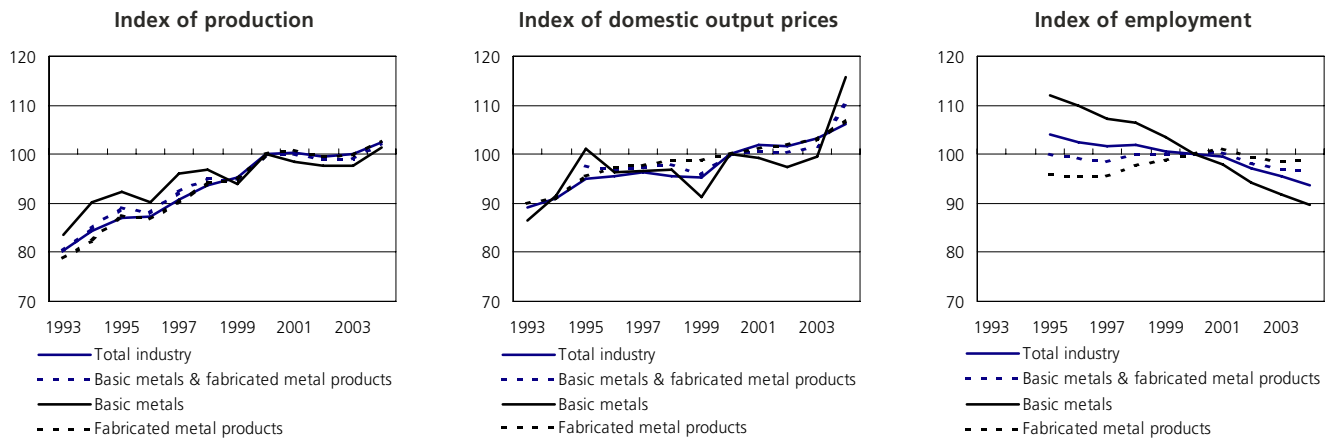
Among the EU-25 Member States, Germany was by far the leading producer of metals and metal products, accounting for 27.2 % of the EU-25's value added in 2002, well ahead of Italy (with 16.9 %), France (13.4 %) and the United Kingdom (11.8 %). The metals and metal products manufacturing sector contributed just over one quarter (26.7 %) of national industrial value added in Luxembourg (compared with an EU-25 average of 10.9 %), and upwards of 12 % of industrial value added in the Czech Republic, Spain, Italy, Austria, Slovenia, Slovakia and Sweden, while the Baltic Member States and Malta were relatively unspecialised in this activity, as metals and metal products manufacturing accounted for less than 6 % of their industrial value added ⁽¹⁾.

⁽¹⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

The evolution of the production index for metals and metal products manufacturing followed closely that of the industrial average, rising at the same pace (2.2 % per annum) between 1993 and 2004 - see overleaf. Nevertheless, the index for metals and metal products manufacturing tended to report somewhat larger fluctuations in both an upward and downward direction, with relatively rapid increases in output recorded between 1993 and 1995, and from 1996 to 1998, while output contracted in 2002 at twice the industrial average (-1.2 % compared with -0.6 %). In 2003, while there were tentative signs of recovery in the EU-25's industrial economy (0.6 % growth), the output of metals and metal products manufacturing rose by a modest 0.1 %. However, in 2004 there was a return to considerably higher levels of growth and the index of production for metals and metal products manufacturing rose by 3.1 %, outperforming the industrial average (2.2 %).

Figure 9.1

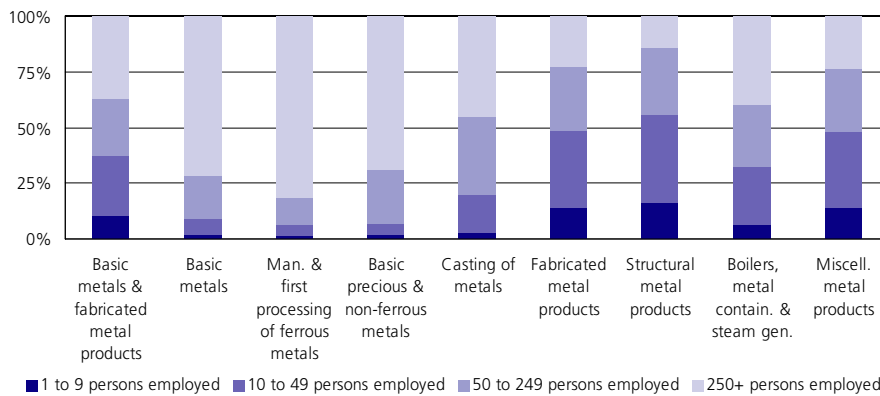
Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 9.2

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

The EU-25's domestic output price index for metals and metal products manufacturing generally increased at a rate that was inferior to that recorded for the whole of industry, with 1998 the only exception during the period 1995 to 2003. However, price increases for raw materials and energy in 2004 fed through into domestic output price increases for metals and metal products manufacturing, as prices rose by 8.3 %. Prices rose at a particularly rapid pace for basic metals manufacturing, up 16.4 %, while the price index of fabricated metal products manufacturing increased by 3.9 %.

The evolution of employment for the metals and metal products manufacturing sector shows that the number of persons employed in the EU-25 declined at a slower pace than the industrial average during the period 1995 to 2004, losing an average of 0.4 % per annum, which was 0.8 percentage points less than for total industry. Fabricated metal products manufacturing recorded a net expansion in its number of persons employed, as the index of employment rose on average by 0.4 % per annum between 1995 and 2004. Net employment gains were recorded each year during the period 1997 to 2001, after which there was a fairly large correction in 2002 (-1.7 %), followed by relative stability. In contrast, the number of persons employed in the basic metals manufacturing sector fell in consecutive years during the period 1996 to 2004, with losses of 2.0 % or more per annum quite common.

Small and medium-sized enterprises (SMEs) with less than 250 persons employed accounted for 63.4 % of the value added generated in the metals and metal products manufacturing sector in 2001, compared with an industrial average of 42.8 %. However, the basic metals manufacturing subsector is dominated by large multinational enterprises, with 71.2 % of its EU-25 value added created by large enterprises (with 250 or more persons employed). In contrast, more than three quarters (77.4 %) of the value added created within the EU-25 for fabricated metal products manufacturing was created by SMEs.

Table 9.3

Manufacture of basic metals and fabricated metal products (NACE Subsection DJ)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years	25-49 years	50+ years
EU-25	84.3	118.7	94.9	102.5	10.7	66.1	23.2
BE	88.2	115.5	92.2	103.0	9.3	67.5	23.2
CZ	79.3	124.9	98.3	101.1	7.0	63.9	29.1
DK	84.3	120.0	95.7	105.0	10.3	59.0	30.7
DE	82.2	113.7	93.2	104.5	11.0	64.4	24.6
EE	89.1	162.2	95.7	97.9		48.3	43.2
EL	90.4	123.4	99.5	101.3	11.9	67.7	20.4
ES	89.5	118.7	98.2	101.2	14.0	63.7	22.2
FR	82.2	115.0	95.5	101.5	11.4	66.5	22.1
IE	86.9	125.1	96.3	102.9	19.1	68.1	12.8
IT	84.0	118.1	95.2	101.3	9.5	74.4	16.2
CY	86.2	130.9	98.7	104.1	18.1	49.4	32.5
LV	68.1	116.0	100.0	105.0	:	55.4	42.7
LT	85.7	156.1	100.0	103.6	:	66.5	:
LU	89.4	109.5	94.6	101.3	:	68.3	28.4
HU	82.2	134.3	97.7	100.9	6.2	66.3	27.4
MT	84.2	107.5	96.4	99.6	:	:	:
NL	89.9	115.3	85.3	115.2	11.0	66.5	22.4
AT	82.4	112.1	92.2	103.3	16.4	69.2	14.4
PL	85.7	126.8	98.3	102.9	6.4	73.8	19.8
PT	85.2	144.5	97.8	100.3	13.7	63.8	22.5
SI	81.5	128.5	96.3	100.5	8.8	74.9	16.2
SK	86.3	139.3	98.7	100.0	6.8	73.5	19.7
FI	85.8	119.0	93.5	99.5	12.3	58.3	29.4
SE	83.5	111.8	92.6	101.5	8.8	58.5	32.7
UK	87.2	116.6	93.0	102.4	12.1	55.4	32.5

Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

The metals and metal products manufacturing sector displays the employment characteristics of a typical industrial activity, with a relatively high proportion of men (84.3 %) and full-time (94.9%) persons within its workforce. Men accounted for between 80 % and 90 % of the workforce in 2004 in the vast majority of the Member States, with only Greece (90.4 %) slightly above this range, and the Czech Republic (79.3 %) and Latvia (68.4 %) below it. In every one of the Member States, the proportion of men working in the metal and metal products manufacturing sector was higher than the average proportion in industry (NACE Sections C to E). A similar pattern was observed for full-time employment, with the Netherlands the only Member State where more than one in ten persons (14.7 %) worked on a part-time basis: note that the Netherlands generally had the highest recourse to employ on a part-time basis, with an average of 26.0 % for the whole of industry. Estonia, Malta and Finland were the only Member States to report

a higher proportion of persons working part-time within the metals and metal products manufacturing sector than their respective industrial averages.

The age profile of the metals and metal products manufacturing sector was heavily slanted towards older persons (aged 50 or more) as this group accounted for 23.2 % of the EU-25's workforce in 2004, which was 7.7 percentage points higher than the industrial average. Those aged 25 to 49 were relatively under-represented, as they accounted for 66.1 % of the metals and metal products manufacturing workforce, 8.2 percentage points less than the industrial average.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's metals and metal products manufacturing sector was EUR 40 300 per person employed in 2002, which was EUR 8 800 below the industrial average. Apparent labour productivity was below the national industrial average in

each of the Member States for which data are available ⁽²⁾. Personnel costs for the EU-25's metals and metal products manufacturing sector averaged EUR 30 900 per employee in 2002, with the Czech Republic, Estonia, Latvia (2001), Luxembourg and Slovakia the only Member States to report average personnel costs for metals and metal products manufacturing above their respective industrial averages ⁽³⁾. The EU-25's wage adjusted labour productivity ratio for metals and metal products manufacturing was 130.2 % in 2002. Poland (87.2 %) was the only Member State to report that value added did not cover personnel costs (once adjusted for the share of employees in persons employed) ⁽⁴⁾.

⁽²⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

⁽³⁾ Belgium and Latvia, 2001; Greece, Ireland and Cyprus, not available.

⁽⁴⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

Table 9.4
Basic metals and fabricated metal products (CPA Subsection DJ)
External trade, EU-25, 2004 (1)

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Basic metals and fabricated metal products	56 184	6.2	6.7	63 420	6.7	7.0	-7 236	88.6
Basic metals	32 871	3.7	3.9	47 914	5.1	5.3	-15 043	68.6
Basic iron and steel and ferro-alloys; tubes; other first processed iron and steel	17 796	2.0	2.1	14 493	1.5	1.4	3 303	122.8
Basic precious metals and metals clad with precious metals	14 945	1.7	1.7	33 384	3.5	3.9	-18 439	44.8
Fabricated metal products	23 314	2.6	2.8	15 506	1.6	1.8	7 807	150.3
Structural metal products	3 558	0.4	0.4	1 027	0.1	0.1	2 531	346.5
Tanks, reservoirs & containers of metal; central heating radiators & boilers; steam generators	3 557	0.4	0.5	754	0.1	0.1	2 803	471.9
Cutlery, tools & general hardware; other fabricated metal products	16 028	1.8	1.9	13 701	1.4	1.6	2 328	117.0

(1) Foundry work services (CPA Group 27.5); forging, pressing, stamping and roll forming services of metal; powder metallurgy (CPA Group 28.4); treatment and coating services of metal; general mechanical engineering services (CPA Group 28.5), no external trade data.

Source: Eurostat, Comext

The gross operating rate is one measure of profitability, defined as the gross operating surplus divided by turnover; it stood at 9.4 % for the metals and metal products manufacturing sector in the EU-25 in 2002. There were four Member States ⁽⁵⁾ where the gross operating rate for this sector rose above the national industrial average, namely, Malta, Germany, Italy and Sweden.

⁽⁵⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

EXTERNAL TRADE

The EU-25 ran a trade deficit of EUR 7.2 billion in 2004 for basic metals and fabricated metal products (CPA Subsection DJ). External trade was concentrated among basic metal products (CPA Division 27) which accounted for 3.7 % of the EU-25's industrial (CPA Sections C to E) exports to non-Community countries and 5.1 % of the EU-25's industrial imports in 2004, compared with 2.6 % of exports and 1.6 % of imports for fabricated metal products (CPA Division 28).

The output of refined non-ferrous metals within the EU-25 is not sufficient to satisfy internal demand from the metals sector and hence there was a significant trade deficit for these products in 2004. Indeed, basic precious metals

and metals clad with precious metals (CPA Group 27.4) recorded a trade deficit in 2004 that was valued at EUR 18.4 billion. The only other basic metals and fabricated metal products CPA group for which the EU-25 recorded a trade deficit was basic iron and steel and ferro-alloys (CPA Group 27.1) with a trade deficit of EUR 1.3 billion.

German exports with the rest of the world (intra- and extra-EU trade combined) of metals and metal products exceeded imports by EUR 12.9 billion in 2004, well ahead of the Swedish trade surplus of EUR 2.6 billion, while Poland and Belgium were the only other Member States to record trade surpluses in excess of EUR 1 billion.

9.1: MANUFACTURE AND FIRST PROCESSING OF FERROUS METALS

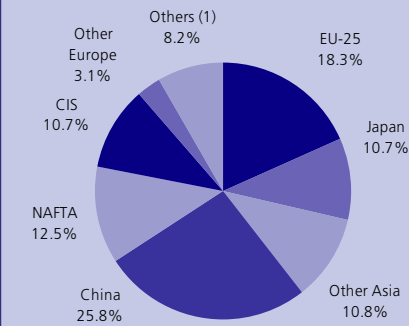
This subchapter includes information on NACE Groups 27.1 to 27.3. The first of these covers the manufacture of basic iron and steel and ferro-alloys. The manufacture of tubes (be they of iron or steel) is included in NACE Group 27.2, while other first processing activities associated with the iron and steel industry (drawing, rolling, forming, wire drawing) are covered by NACE Group 27.3. Together, the aggregate covering all three of these activities is hereafter referred to as the first processing of ferrous metals sector.

The main physical inputs for making steel include iron ore, coal/coke, lime, recycled steel, and energy products. The production of steel involves several stages, with iron ore, coke and lime being fed into a blast furnace to produce liquid iron. Two principal processes are used in the EU: the basic oxygen steelmaking process and the electric arc furnace method, although a small proportion of output is produced using the open-hearth furnace method. Secondary steelmaking processes change either the shape or the physical properties of the metal through processes such as casting, forming, shaping, machining, joining, coating, heat treatment, or surface treatment.

According to IISI ⁽⁶⁾, global production of crude steel reached 1 057 million tonnes in 2004. In recent years there has been a marked increase in the proportion of world steel output accounted for by China. Figure 9.3 shows China as the leading steel producer in the world with 25.8 % of global production (in volume terms), followed by the EU-25 (159 million tonnes or 18.3 % of the total). Privatisation and rationalisation of the European steel market led to a wave of merger activity in the 1980s and 1990s. IISI confirms that Arcelor (ES/FR/LU) was the largest steel producer in the world in 2004, producing 46.9 million tonnes of crude steel – see Table 9.5.

⁽⁶⁾ IISI (the International Iron and Steel Institute), more information at: <http://www.worldsteel.org>.

Figure 9.3
Global steel production, 2004 (% based on crude steel output in tons)



(1) Comprising Africa 1.6 %, Central and South America 4.5 %, the Middle East 1.3 % and Australasia 0.8 %.
Source: IISI (International Iron and Steel Institute), <http://www.worldsteel.org>

Table 9.5
Largest steel producing enterprises in the world, 2004 (million tonnes of crude steel output)

Company	Country	2003	2004
Arcelor	ES/FR/LU	42.8	46.9
Mittal Steel	US/NL	35.3	42.8
Nippon Steel	JP	31.3	32.4
JFE	JP	30.2	31.6
POSCO	South Korea	28.9	30.2
Shanghai Baosteel	China	19.9	21.4
US Steel	US	17.9	20.8
Corus Group	UK	19.1	19.0
Nucor	US	15.8	17.9
ThyssenKrupp	DE	16.1	17.6

Source: IISI (International Iron and Steel Institute), <http://www.worldsteel.org>

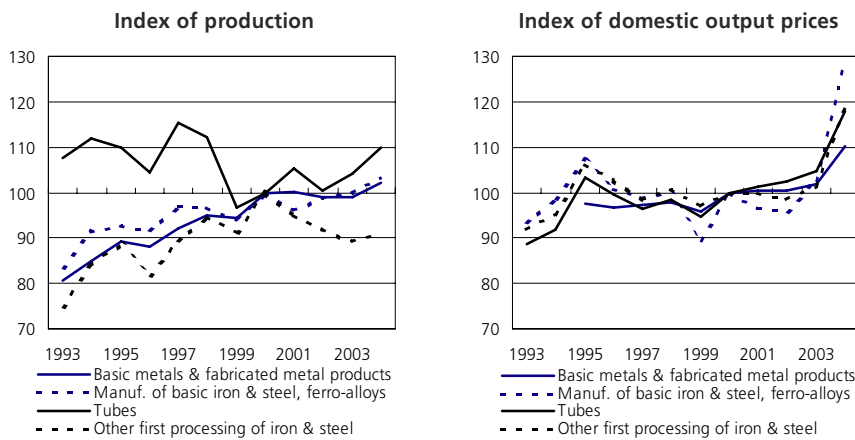
STRUCTURAL PROFILE

The EU-25's first processing of ferrous metals sector (NACE Groups 27.1 to 27.3) generated EUR 29.4 billion of value added in 2002, equivalent to 15.2 % of the metals and metal products manufacturing (NACE Subsection DJ) total, or 1.7 % of the industrial (NACE Sections C to E) total; there were 589 000 persons employed (1.6 % of the industrial workforce). The largest NACE group in terms of value added was the manufacture of basic iron and steel and of ferro-alloys (NACE Group 27.1), with a 64.8 % share of the sectoral total, followed by the manufacture of tubes (NACE Group 27.2) with 21.8 %, while the remaining 13.4 % of value added was accounted for by other first processing of iron and steel (NACE Group 27.3).

Germany dominated the first processing of ferrous metals sector with a 27.2 % share of EU-25 value added in 2002, while Italy (13.7 %) and France (11.9 %) were the only other Member States to record double-digit shares. The United Kingdom's 5.6 % share of EU-25 value added was relatively low, and was surpassed by that recorded for Spain (9.0 %) and Sweden (6.9 %). Slovakia was particularly specialised in the first processing of ferrous metals, as this activity generated 6.8 % of its industrial value added in 2002, while the next highest share among those Member States (7) for which data are available was recorded in Sweden (4.1 %); Austria, the Czech Republic, Finland and Spain were also relatively specialised.

(7) Belgium, Cyprus and Slovenia, 2001; Estonia, Greece, Ireland, Latvia, Luxembourg, Malta and the Netherlands, not available.

Figure 9.4
Manufacture of basic iron and steel and of ferro-alloys; tubes; other first processing of iron and steel (NACE Groups 27.1 to 27.3)
Evolution of main indicators, EU-25 (2000=100)



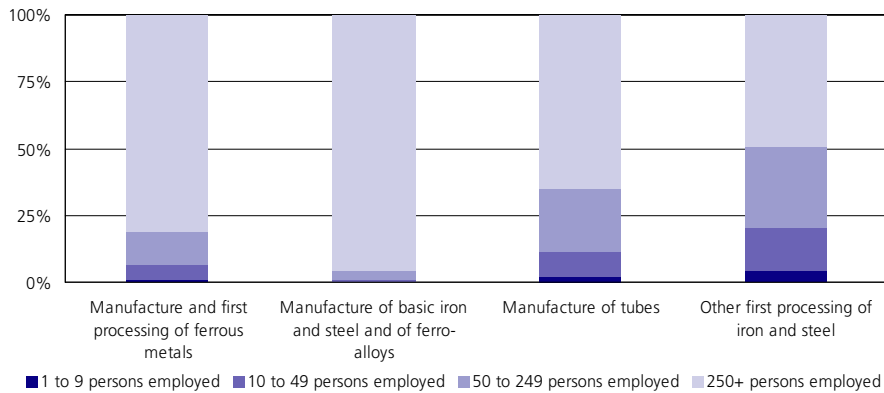
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 9.6
Manufacture of basic iron and steel and of ferro-alloys; tubes; other first processing of iron and steel (NACE Groups 27.1 to 27.3)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Manufacture and first processing of ferrous metals	29 365	1.7	589	1.6
Manufacture of basic iron and steel and of ferro-alloys	19 033	1.1	387	1.1
Manufacture of tubes	6 399	0.4	119	0.3
Other first processing of iron and steel	3 933	0.2	83	0.2

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 9.5
Manufacture of basic iron and steel and of ferro-alloys; tubes; other first processing of iron and steel (NACE Groups 27.1 to 27.3)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 9.7
Production value of selected ferrous metal products (CPA Groups 27.1 to 27.3), EU-25, 2003 (EUR million)

	Prodcom code	
Pig iron and spiegeleisen in pigs, blocks or other primary forms; ferrous products obtained by direct reduction of iron ore and other spongy ferrous products	27.10.11.00	1 981.2
Granules and powders, of pig iron, spiegeleisen, iron or steel	27.10.12.50	480.5
Other ferro alloys n.e.c.	27.10.20.90	428.1
Hot rolled wire rod in coil (of stainless steel)	27.10.42.00	631.4
Ribbed or other deformed wire rod (of non-alloy steel)	27.10.81.10	681.4
Railway material (of steel)	27.10.92.30	952.6
Steel flanges (incl. stainless steel)	27.22.20.10	373.5
Steel threaded tube or pipe fittings (incl. stainless steel, elbows; bends and sleeves)	27.22.20.30	380.9
Steel tube or pipe fittings (incl. stainless steel)	27.22.20.50	767.1
Cold formed sections, obtained from flat products, of non alloy steel, not coated	27.33.11.30	1 217.5
Cold profiled (ribbed) sheets, of non alloy steel	27.33.11.50	515.4
Iron or non-alloy steel wire containing <0.25% of carbon incl. crimping wire	27.34.11.30	1 968.5
Iron or non-alloy steel wire containing 0.25-0.6% of carbon incl. crimped wire	27.34.11.50	387.5
Iron or non-alloy steel wire containing =>0.6% of carbon incl. crimping wire	27.34.11.70	866.5
Stainless steel wire	27.34.12.30	593.9
Alloy steel wire	27.34.12.50	432.9

Source: Eurostat, PRODCOM

The EU-25's index of production for the manufacture of basic iron and steel and of ferro-alloys followed quite closely that for metals and metal products manufacturing between 1993 and 2004, with output rising on average by 2.0 % and 2.2 % per annum respectively. Growth was slightly lower for the other first processing of iron and steel at 1.8 % per annum, largely as a result of three consecutive contractions in output between 2001 and 2003. The pattern of development for the manufacture of tubes was quite different, with a sizeable reduction in output between 1997 and 2000,

while average growth was 4.6 % per annum over the period 2002 to 2004, compared with 1.6 % per annum for the whole of metals and metal products manufacturing - see Figure 9.4 on the previous page.

In 2004 there was rapid domestic output price growth for the manufacture of basic iron and steel and of ferro-alloys, as prices increased by 25.7 % in the EU-25 compared with the year before. Prices also rose at a relatively fast pace for other first processing of iron and steel (16.8 %) and the manufacture of tubes (12.8 %).

For the manufacture of basic iron and steel and of ferro-alloys, the minimum efficient scale of production is relatively high, resulting in large enterprises (with 250 or more persons employed) contributing 95.4 % of the EU-25's value added in 2001; the second highest proportion across all NACE groups within the industrial economy. The contribution of large enterprises to value added was less significant for the manufacture of tubes (64.7 %) or for other first processing of iron and steel (49.2 %).

PRODUCTIVITY AND PROFITABILITY

At EUR 49 900 per person employed, the apparent labour productivity of the EU-25's first processing of ferrous metals sector was slightly higher (by just EUR 800 per person employed) than the industrial average in 2002, but EUR 9 600 per person employed higher than the average for metals and metal products manufacturing. Apparent labour productivity in Portugal and Spain was 2.3 and 1.5 times as high as national industrial averages, while in the United Kingdom and Hungary it was only 48.8 % and 49.3 % of the national industrial average. Personnel costs per employee for the first processing of ferrous metals sector were consistently higher in each of the Member States ⁽⁸⁾ than their respective industrial averages. The EU-25's first processing of ferrous metals sector reported a relatively low level of profitability, in terms of the gross operating rate, which stood at 5.6 % in 2002. Among the Member States, Sweden and Cyprus (2001) were the only Member States ⁽⁹⁾ where the gross operating rate for the first processing of ferrous metals was higher than the national industrial average, while in Hungary and Poland, personnel costs exceeded value added, resulting in a negative gross operating surplus and therefore a negative gross operating rate.

EXTERNAL TRADE

The EU-25 ran a trade surplus with non-Community countries of EUR 3.3 billion in 2004 for ferrous metals (CPA Groups 27.1 to 27.3). The EU-25 was a net importer (EUR 1.3 billion) of basic iron and steel and ferro-alloys (CPA Group 27.1), while it recorded a surplus of some EUR 4.1 billion for tubes (CPA Group 27.2) and EUR 552 million for other iron and steel and non-ECSC (European Steel and Coal Community) ferro-alloys (CPA Group 27.3). Germany (EUR 2.9 billion), Belgium (EUR 2.0 billion) and Sweden (EUR 1.9 billion) recorded the three highest trade surpluses (with both intra- and extra-EU partners) for ferrous metals in 2002, while Italy was the only Member State with a deficit reaching EUR 1 billion.

⁽⁸⁾ Belgium and Slovenia, 2001; Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg, Malta and the Netherlands, not available.

⁽⁹⁾ Belgium, Cyprus and Slovenia, 2001; Estonia, Greece, Ireland, Latvia, Luxembourg, Malta and the Netherlands, not available.

Table 9.8

Basic iron and steel and ferro-alloys (ECSC); tubes; other iron and steel and non-ECSC ferro-alloys (CPA Groups 27.1 to 27.3)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Ferrous metals	17 796	2.0	2.1	14 493	1.5	1.4	3 303	122.8
Basic iron and steel & ferro-alloys (ECSC)	10 258	1.1	1.2	11 572	1.2	0.8	-1 314	88.6
Tubes	6 151	0.7	0.6	2 086	0.2	0.2	4 065	294.8
Other iron & steel & non-ECSC ferro-alloys	1 387	0.2	0.4	834	0.1	0.4	552	166.2

Source: Eurostat, Comext

9.2: BASIC PRECIOUS AND NON-FERROUS METALS

NACE Group 27.4 covers the manufacture of a wide range of metals other than iron and steel, including precious metals (such as gold, silver and platinum), aluminium, lead, zinc, tin, copper, chrome, nickel and manganese, hereafter referred to as the basic precious and non-ferrous metals manufacturing sector.

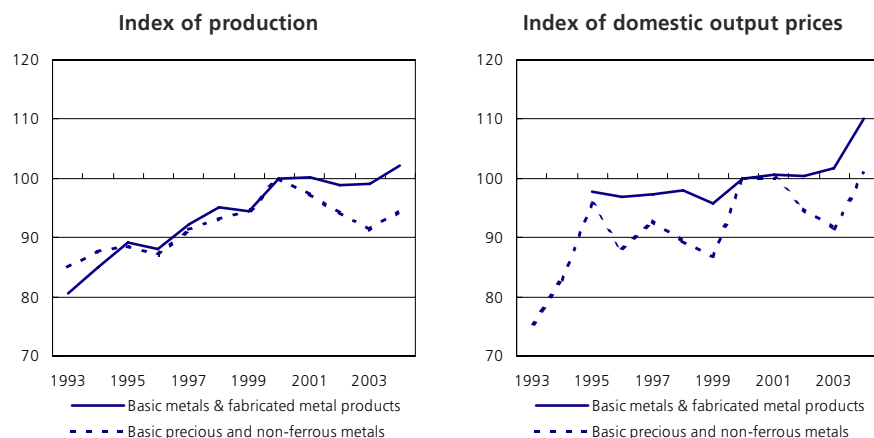
As with the production of iron and steel, one of the main cost factors that enterprises manufacturing precious and non-ferrous metals face is that of the price of energy. For example, primary aluminium starts as bauxite, which is refined into aluminium oxide, and subsequently smelted by passing a large current through it, therefore requiring large amounts of electricity. A guaranteed supply of raw materials is also an important concern for manufacturers within this sector, as a large proportion of global deposits of many non-ferrous metal ores are located outside of the EU, notably in Australia, South America and Africa. Beyond jewellery (see Subchapter 13.1), precious metals are used in a wide range of applications ranging from medical markets (platinum in cancer treatment or medical devices or gold for dental treatments) to car exhausts (platinum, palladium and iridium in catalytic converters), or from electrical components to CDs, DVDs or photographic film (all of which use gold and silver).

STRUCTURAL PROFILE

The basic precious and non-ferrous metals manufacturing sector (NACE Group 27.4) generated EUR 15.1 billion of value added in the EU-25 in 2000. Germany had the highest level of value added in 2002 among the EU-25 Member States, some EUR 4.6 billion, while the United Kingdom, France, Italy and Spain all reported value added of between EUR 1.0 billion and EUR 1.4 billion. The basic precious and non-ferrous metals manufacturing

Figure 9.6

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

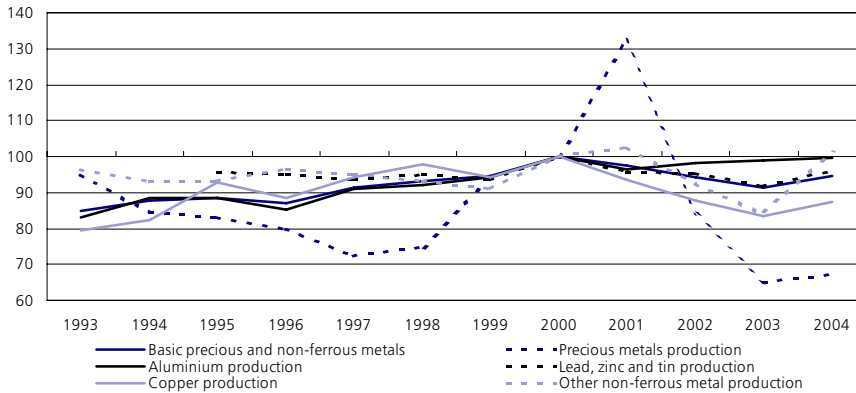
sector employed 223 400 persons in the EU-25 in 2002, which equated to 4.7 % of the metals and metal products manufacturing (NACE Subsection DJ) workforce or 0.6 % of the industrial (NACE Sections C to E) workforce.

The index of production for basic precious and non-ferrous metals manufacturing followed closely that for metals and metal products manufacturing between 1993 and 2000, with a modest contraction in 1996 being the only time that growth was interrupted. However, the two indices diverged thereafter as there were three consecutive contractions in EU-25 output for basic precious and non-ferrous metals manufacturing during the period 2001 to 2003, resulting in an overall loss of 8.6 %. Subsequently output rebounded in 2004, with the EU-25 production index of basic precious and non-ferrous metals rising by 3.6 %. In keeping with other metal and metal products

manufacturing sectors, the domestic output price index of basic precious and non-ferrous metals manufacturing increased rapidly in 2004, up by 9.8 %. More generally output prices for this activity (in particular the part relating to precious metals) were susceptible to widespread fluctuations in commodity prices, with high price increases in 1994, 1995 and 2000, as well as 2004.

Figure 9.7

Manufacture of basic precious and non-ferrous metals (NACE Group 27.4)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 9.9

Basic precious metals and metals clad with precious metals (CPA Group 27.4)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Basic precious metals & metals clad with precious metals	14 945	1.7	1.7	33 384	3.5	3.9	-18 439	44.8
Precious metals	3 854	0.4	0.5	10 159	1.1	1.4	-6 305	37.9
Aluminium & aluminium products	5 098	0.6	0.6	10 449	1.1	1.1	-5 351	48.8
Lead, zinc & tin & products thereof	396	0.0	0.1	1 415	0.1	0.2	-1 019	28.0
Copper products	3 762	0.4	0.3	6 313	0.7	0.6	-2 551	59.6
Other non-ferrous metal products	1 836	0.2	0.2	5 048	0.5	0.5	-3 213	36.4

Source: Eurostat, Comext

PRODUCTIVITY AND PROFITABILITY

The EU-25's apparent labour productivity for basic precious and non-ferrous metals manufacturing was EUR 64 900 per person employed in 2001, while average personnel costs were EUR 39 300 per employee; these values were considerably higher than the metals and metal products manufacturing averages of EUR 40 300 per person employed and EUR 30 900 per employee. Combining the two ratios, the EU-25's wage adjusted labour productivity ratio for basic precious and non-ferrous metals manufacturing was 165.0 % in 2001, while profitability, as measured by the gross operating rate, was 7.8 %.

EXTERNAL TRADE

The EU-25 ran a deficit of EUR 18.4 billion in 2004 in the trade of basic precious metals and metals clad with precious metals (CPA Group 27.4), with imports from non-Community countries valued at EUR 33.4 billion. There was a deficit for each of the five CPA classes within this heading, the most substantial being recorded for precious metals (CPA Class 27.41) and for aluminium and aluminium products (CPA Class 27.42), EUR 6.3 billion and EUR 5.4 billion respectively.

9.3: CASTING

NACE Group 27.5 covers the casting of metals (including iron, steel, light metals and other non-ferrous metals). As such, this activity specialises in the manufacture of semi-finished castings for downstream customers. The information presented does not include the manufacture of standardised, finished cast products (such as tubes, which are part of NACE Group 27.2) or boilers or radiators (which are part of NACE Groups 28.2 and 28.3). Note that external trade statistics are not available for foundry work services (CPA Group 27.5).

According to CAEF ⁽¹⁰⁾, the most important downstream industries for casting enterprises include vehicle manufacturers, producers of machinery and equipment, and manufacturers of pipes and fittings.

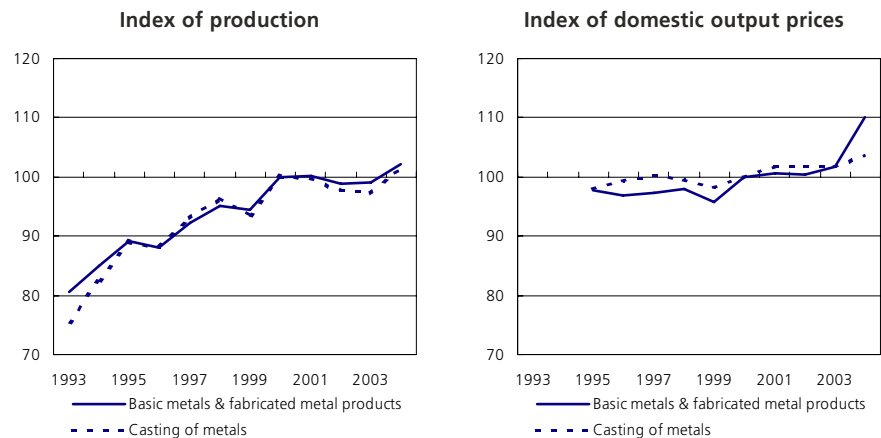
STRUCTURAL PROFILE

There were 274 700 persons employed in the casting of metals (NACE Group 27.5) sector in the EU-25 in 2002, generating EUR 10.4 billion of value added, which equated to 5.4 % of the output of metals and metal products manufacturing (NACE Subsection DJ) or 0.6 % of industrial (NACE Sections C to E) value added.

Germany had by far the highest share of EU-25 value added in 2002, with just over a third of the total (34.8 %), followed by Italy (16.0 %), France (13.0 %) and the United Kingdom (10.5 %). In Germany, 0.8 % of industrial value added was accounted for by the casting of metals in 2002, a proportion that was exceeded in just two of the Member States ⁽¹¹⁾, Slovenia and the Czech Republic, where casting contributed 1.4 % and 1.1 % respectively to national industrial value added.

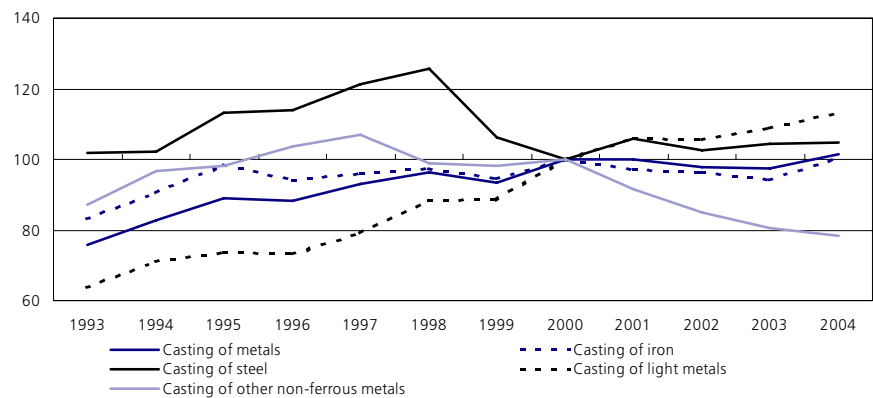
The index of production for the casting of metals followed a similar path to that for the whole of metals and metal products manufacturing, but with slightly more amplitude to positive and negative developments during the period 1993 to 2004. At a more detailed level (of NACE classes) the most rapid expansion in output was recorded for the casting of light metals (NACE Class 27.53), where EU-25 output rose on average by 5.4 % per annum between 1993 and 2004, while the three remaining NACE classes in this activity all registered average

Figure 9.8 Casting of metals (NACE Group 27.5) Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 9.9 Casting of metals (NACE Group 27.5) Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

output growth that was inferior to that recorded for the whole of casting; although the casting of other non-ferrous metals (NACE Class 27.54) was the only NACE class to record an overall reduction in its output over the period considered. In contrast to many other metal activities, domestic output prices for the casting of metals were relatively stable in the EU-25, rising on average by just 0.6 % per annum between 1993 and 2004, with annual changes never exceeding +/- 2 % in any given year.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's casting of metals sector was EUR 38 000 per person employed in 2002, which was some EUR 2 300 below the metals and metal

products manufacturing average and EUR 11 100 below the industrial average. Average personnel costs for the casting of metals were EUR 30 400 per employee in the EU-25 in 2002, just EUR 500 below the average for metals and metal products manufacturing, resulting in a wage adjusted labour productivity ratio of 125.1 %. Profitability, measured here by the gross operating rate, was 7.8 % in 2002 for the EU-25's casting of metals sector. Germany, Portugal and Sweden were the only Member States ⁽¹²⁾ where the gross operating rate for the casting of metals exceeded national industrial averages.

⁽¹⁰⁾ CAEF (Committee of European Foundry Associations), more information at: <http://www.caef-eurofoundry.org>.

⁽¹¹⁾ Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

⁽¹²⁾ Belgium, 2001; Estonia, Greece, Ireland, Cyprus, Latvia and Luxembourg, not available.

Table 9.10
Production value of selected castings of metals (CPA Group 27.5), EU-25, 2003
 (EUR million)

	Prodcom code	
Other parts of piston engines and mechanical engineering (malleable iron casting)	27.51.11.40	66.7
Ductile iron castings for transmission shafts, crankshafts, camshafts and cranks	27.51.12.20	94.8
Ductile iron castings for bearing housings and plain shaft bearings	27.51.12.30	18.0
Other parts of piston engines and mechanical engineering (nodular iron castings)	27.51.12.40	237.9
Grey iron castings for transmission shafts, crankshafts, camshafts and cranks	27.51.13.20	16.1
Grey iron castings for bearing housings and plain shaft bearings	27.51.13.30	27.1
Steel castings for bearing housings and plain shaft bearings	27.52.10.30	10.4
Other parts of piston engines and mechanical	27.52.10.40	32.4
Light metal castings for transmission shafts, crankshafts, camshafts and cranks	27.53.10.20	11.6
Light metal castings for bearing housings and plain shaft bearings	27.53.10.30	62.4
Other parts of piston engines and mechanical engineering	27.54.10.40	147.9

Source: Eurostat, PRODCOM

9.4: STRUCTURAL METAL PRODUCTS

This subchapter includes information on NACE Group 28.1 that covers the manufacture of structural metal products. The vast majority of the products that are produced within this activity are destined for the construction sector (see Chapter 15), for example, as metal supports and structures, prefabricated buildings, metal doors, window frames or shutters. Demand is therefore closely linked to developments in the construction sector for new housing starts, renovation and civil engineering projects.

STRUCTURAL PROFILE

The EU-25's structural metal products manufacturing (NACE Group 28.1) sector created EUR 32.9 billion of value added in 2002, some 17.1 % of the metals and metal products manufacturing (NACE Subsection DJ) total or 1.9 % of industrial (NACE Sections C to E) value added. In employment terms, there were almost one million (977 500) persons employed in the EU-25's structural metal products manufacturing sector, which equated to 20.4 % of the metals and metal products manufacturing workforce.

Germany had the highest share of EU-25 value added, although at 23.9 % its share was relatively low in relation to its share of most other metals and metal products activities. Italy accounted for 17.8 % of the EU-25's value added for structural metal products manufacturing, while the United Kingdom (12.9 %) and Spain (11.7 %) were the only

Table 9.11
Manufacture of structural metal products (NACE Group 28.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (23.9)	Cyprus (182.4)	Germany (20.1)	Spain (188.6)
2	Italy (17.8)	Spain (166.8)	Italy (19.0)	Cyprus (177.2)
3	United Kingdom (12.9)	Netherlands (159.8)	Spain (14.4)	Netherlands (165.5)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

other Member States to record double-digit shares; note the relatively low proportion of EU-25 activity that was recorded in France (7.5 % of the EU-25's value added and 5.9 % of EU-25's workforce). In relative terms, the most specialised Member State⁽¹³⁾ for the manufacture of structural metal products was Cyprus, where this activity accounted for 3.4 % of industrial value added, while Spain, the Netherlands and Luxembourg all reported that at least 3.0 % of their industrial value added was created within this sector. In contrast, just 1.0% of industrial value added was created in the structural metal products manufacturing sector in France and Slovakia, a proportion that fell to 0.9 % for Lithuania.

⁽¹³⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

The index of production for structural metal products manufacturing in the EU-25 contracted by 6.0 % in 1994, after which output remained relatively unchanged through to 1997. The pace at which output grew quickened thereafter, rising to 7.0 % by 1999, and output continued to expand through to 2001 (albeit at lower rates). Following a 2.4 % contraction in 2002, the EU-25's index of production for structural metal products manufacturing renewed its upward path, although with relatively modest rates of growth in 2003 and 2004, up 1.0 % and 0.2 % respectively.

Domestic output prices for structural metal products manufacturing increased in the EU-25 throughout the period from 1993 to 2004, with gains of 2.0 % or more in 1995, 1998, 2000 and 2004. The latest price increase for 2004 was 5.6 %, which was by far the highest registered during the period considered.

The enterprise size class structure for structural metal products manufacturing was dominated by small and medium-sized enterprises (with less than 250 persons employed) which created 85.8 % of the EU-25's value added in 2001, some 22.4 percentage points higher than the average for the whole of the metals and metal products manufacturing sector.

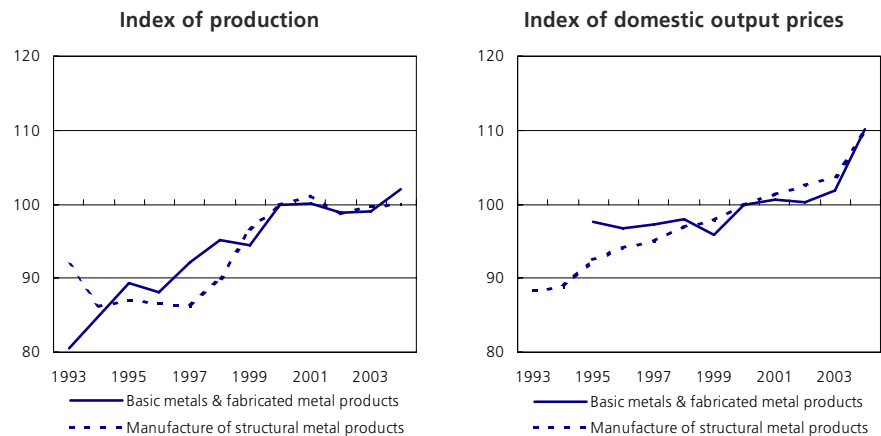
PRODUCTIVITY AND PROFITABILITY

Both apparent labour productivity and average personnel costs of the EU-25's structural metal products manufacturing sector were relatively low in 2002. Each person employed generated an average of EUR 33 600 of value added, which was EUR 6 700 below the metals and metal products manufacturing average and EUR 15 500 below the industrial average. EU-25 personnel costs for structural metal products manufacturing averaged EUR 26 600 per employee, which was EUR 4 300 lower than the average for metals and metal products manufacturing. The gross operating rate is one measure of profitability, defined as the gross operating surplus divided by turnover, it stood at 10.2 % for structural metal products manufacturing in the EU-25 in 2002, some 0.2 percentage points higher than the industrial average.

Among the Member States ⁽¹⁴⁾ for which data are available, the apparent labour productivity of the structural metal products manufacturing sector generally stood some 20 % to 40 % below national industrial averages, with Estonia (16.2 % lower) and Slovenia (16.5 % lower) the only Member States where labour productivity was closer to the national industrial average, while the difference between productivity levels was even more pronounced in Slovakia (41.5 % lower), Hungary (42.3 %) and Malta (48.9 %). Average personnel costs tended to be much closer to national industrial averages, with only Hungary, Latvia (2001), Spain, Germany, Lithuania and Malta reporting personnel costs per employee that were more than 20 % below their respective industrial averages; Denmark was the only Member State to record average personnel costs for the structural metal products manufacturing sector that were higher than the national industrial average (by 1.3 %). The gross operating rate

⁽¹⁴⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

Figure 9.10
Manufacture of structural metal products (NACE Group 28.1)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 9.12
Production value of selected structural metal products (CPA Group 28.1), EU-25, 2003 (EUR million)

	Prodcom code	
Prefabricated buildings, of iron or steel	28.11.10.30	9 810.5
Prefabricated buildings, of aluminium	28.11.10.50	998.4
Iron or steel bridges and bridge-sections	28.11.21.00	958.6
Iron or steel towers and lattice masts	28.11.22.00	1 354.0
Structures, solely or principally of iron or steel sheet comprising two walls of profiled (ribbed) sheet with an insulating core	28.11.23.40	2 198.9
Other structures principally of sheet: other	28.11.23.50	6 162.4
Other structures of iron or steel	28.11.23.60	19 606.5
Iron or steel doors, thresholds for doors, windows and their frames	28.12.10.30	5 119.0

Source: Eurostat, PRODCOM

Table 9.13
Manufacture of structural metal products (NACE Group 28.1)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Austria (50.4)	Denmark (39.3)	Latvia (291.5)	Latvia (27.3)
2	Denmark (49.5)	Luxembourg (37.9)	Lithuania (158.2)	Malta (23.6)
3	United Kingdom (48.3)	Sweden (37.4)	Czech Republic (148.4)	Italy (14.6)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

for structural metal products manufacturing was higher than the national industrial average in Malta, Italy, Germany and France, while value

added failed to cover personnel costs in Poland, resulting in a negative gross operating rate (-1.7 %).

Table 9.14

Structural metal products (CPA Group 28.1)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Structural metal products	3 558	0.4	0.4	1 027	0.1	0.1	2 531	346.5
Metal structures & parts of structures	3 243	0.4	0.4	910	0.1	0.1	2 333	356.4
Builders' carpentry & joinery of metal	315	0.0	0.0	117	0.0	0.0	198	269.7

Source: Eurostat, Comext

EXTERNAL TRADE

With exports of EUR 3.6 billion in 2004, the EU-25 ran a trade surplus of EUR 2.5 billion with non-Community countries for structural metal products (CPA Group 28.1), with exports covering imports more than threefold. The vast majority of the external trade of structural metal products was accounted for by metal structures and parts of structures (CPA Class 28.11), which accounted for 91.1 % of exports and 88.6 % of imports.

Germany recorded by far the highest trade surplus (with both intra- and extra-EU partners), some EUR 1.5 billion in 2004, which was almost double the surplus recorded by Italy (EUR 848 million), where the second highest surplus was registered; Poland (EUR 556 million) was the only other Member State to record a surplus of more than EUR 0.5 billion.

**9.5: BOILERS, METAL CONTAINERS
AND STEAM GENERATORS**

This subchapter covers NACE Groups 28.2 and 28.3 together, which are referred to as the boilers, metal containers and steam generators manufacturing sector. The first of the groups covered includes the manufacture of metal tanks, reservoirs and containers, as well as central heating radiators and boilers, while the latter covers the manufacture of steam generators (except for central heating), for example, vapour generators, condensers or nuclear reactors.

The construction (see Chapter 15) and energy (see Chapter 2) sectors are the two main downstream markets for enterprises that operate within the boilers, metal containers and steam generators manufacturing sector.

STRUCTURAL PROFILE

The boilers, metal containers and steam generators manufacturing sector (NACE Groups 28.2 and 28.3) generated EUR 12.2 billion of value added in the EU-25 in 2002 ⁽¹⁵⁾. Employment data is available for both NACE groups for 2002 showing there were 296 000 persons employed in the EU-25, some 6.2 % of those employed within the metals and metal products manufacturing (NACE Subsection DJ) sector, or 0.8 % of the industrial (NACE Sections C to E) workforce.

A breakdown by activity reveals that the two NACE groups covered by this subchapter were of similar size in value added terms, as the manufacture of steam generators (NACE Group 28.3) posted EU-25 value added of EUR 6.3 billion in 2002, while that for the manufacture of tanks, reservoirs, containers and central heating (NACE Group 28.2) was EUR 5.9 billion in 2001.

⁽¹⁵⁾ Manufacture of tanks, reservoirs and containers of metal; central heating radiators and boilers (NACE Group 28.2), 2001.

In contrast to most of the other metals and metal products sectors, where Germany was the largest EU-25 producer in value added terms, France recorded the highest level of value added for the metal containers and steam generators manufacturing sector, EUR 4.1 billion in 2002, almost 1.5 times as high as in Germany (EUR 2.8 billion). A more detailed analysis reveals a high degree of specialisation for the manufacture of steam generators in France, as this subsector accounted for 86.7 % of sectoral value added in 2002, while Germany (51.4 %) and Finland (50.9 %) were the only other Member States ⁽¹⁶⁾ for which data are available that reported a majority of their value added being created within the steam generators manufacturing subsector. In contrast, 85 % or more of sectoral value added could be attributed to the manufacture of tanks, reservoirs, containers and central heating in Slovenia, Italy, the Netherlands, Spain and Sweden.

⁽¹⁶⁾ Belgium and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Lithuania, Luxembourg and Malta, not available.

Table 9.15

**Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)
Structural profile, EU-25, 2002**

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Boilers, metal containers & steam generators (1)	12 197	:	296	0.8
Tanks, reservoirs, containers; central heating (2)	5 888	0.3	148	0.4
Steam generators	6 309	0.4	147	0.4

(1) Manufacture of tanks, reservoirs and containers of metal; central heating radiators and boilers (NACE Group 28.2), 2001 for value added.

(2) Value added and share of industrial value added, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The index of production for the manufacture of steam generators rose at a slightly faster pace (2.3 % per annum) than the average for metals and metal products manufacturing (2.2 % per annum) between 1993 and 2004, while output growth for tanks, reservoirs, containers and central heating manufacturing was slower, averaging 0.7 % per annum. Domestic output price increases in these activities rose at a very uniform pace during the period 1995 to 2004, with EU-25 prices rising on average by 1.3 % per annum for the manufacture of tanks, reservoirs, containers and central heating (the same rate as for the whole of metals and metal products manufacturing) and by 1.1 % per annum for steam generators manufacturing between 1996 and 2004.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's boilers, metal containers and steam generators manufacturing sector was EUR 40 800 per person employed in 2002 ⁽¹⁷⁾. Apparent labour productivity was somewhat higher for the manufacture of steam generators, at EUR 42 800 per person employed in 2002, almost EUR 4 000 above that recorded for the manufacture of tanks, reservoirs, containers and central heating (EUR 38 900 per person employed in 2001).

Among those Member States ⁽¹⁸⁾ for which data are available, relatively high levels of apparent labour productivity and average personnel costs were recorded in the Netherlands, Germany, Austria and the United Kingdom. However, Slovakia posted the highest wage adjusted labour productivity ratio (207.6 %) for the boilers, metal containers and steam generators manufacturing sector, well in advance of the Czech Republic (167.4 %), the only other Member State to report a ratio of more than 150 %. Wage adjusted labour

Table 9.16

**Production value of selected tanks, reservoirs and containers of metal; central heating radiators and boilers; steam generators (CPA Group 28.2 and 28.2), EU-25, 2003
(EUR million)**

	Prodcom code	
Iron or steel reservoirs, tanks, vats and similar containers for gases, of a capacity >300 litres	28.21.11.10	302.7
Iron or steel reservoirs, tanks, vats and similar containers for liquids, of a capacity >300 litres	28.21.11.30	1 759.1
Iron or steel reservoirs, tanks, vats and similar containers for solids, of a capacity >300 litres	28.21.11.50	860.0
Aluminium reservoirs, tanks, vats and similar containers for gases, of a capacity >300 litres	28.21.11.70	130.5
Iron or steel containers for compressed or liquefied gas	28.21.12.30	1 066.5
Aluminium containers for compressed or liquefied gas	28.21.12.50	78.9
Radiators, not electrically heated, and parts thereof of cast iron	28.22.11.30	138.8
Radiators, not electrically heated, and parts thereof of iron or steel	28.22.11.50	2 214.1
Boilers for central heating	28.22.12.00	4 455.7
Parts of boilers for central heating	28.22.13.00	948.7
Watertube boilers with a steam production >45 tonnes per hour	28.30.11.10	1 055.1
Watertube boilers with a steam production <=45 tonnes per hour	28.30.11.30	127.7
Vapour generating boilers (incl. hybrid boilers)	28.30.11.50	500.1
Super-heated water boilers	28.30.11.70	121.4
Parts of vapour generating boilers and super-heater water boilers	28.30.13.30	451.4
Parts of nuclear reactors	28.30.22.00	241.8
Repair and maintenance of steam generators (excl. central heating hot water boilers)	28.30.92.00	2 789.2

Source: Eurostat, PRODCOM

productivity ratios were only higher than national industrial averages in Sweden, Slovakia and Italy, and this by no more than 2 percentage points. The same three Member States were joined by the Czech Republic and the United Kingdom, as the only Member States with gross operating rates (the gross operating surplus divided by turnover) of more than 10 %.

⁽¹⁷⁾ Manufacture of tanks, reservoirs and containers of metal; central heating radiators and boilers (NACE Group 28.2), 2001.

⁽¹⁸⁾ Belgium and Latvia, 2001; Estonia, Greece, Ireland, Cyprus, Lithuania, Luxembourg and Malta, not available.

Table 9.17

Manufacture of boilers, metal containers and steam generators (NACE Groups 28.2 and 28.3)

External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Boilers, metal containers & steam generators	3 557	0.4	0.5	754	0.1	0.1	2 803	471.9
Tanks, reser., containers; central heating	1 599	0.2	0.1	562	0.1	0.1	1 037	284.4
Steam generators	1 957	0.2	0.3	191	0.0	0.0	1 766	1 023.4

Source: Eurostat, Comext

EXTERNAL TRADE

The EU-25 ran a trade surplus with non-Community countries for boilers, metal containers and steam generators (CPA Groups 28.2 and 28.3), which was valued at EUR 2.8 billion in 2004. The surplus was particularly large for steam generators (CPA Group 28.3) where exports of EUR 2.0 billion

were more than ten times the value of imports (EUR 191 million), resulting in a trade surplus of EUR 1.8 billion. The EU-25 exported EUR 1.6 billion of tanks, reservoirs, containers and central heating (CPA Group 28.2) which was almost three times as high as its level of imports (EUR 562 million), resulting in a trade surplus of EUR 1.0 billion.

9.6: MISCELLANEOUS METAL PRODUCTS

The four remaining NACE Groups (28.4 to 28.7) that are part of Division 28 are gathered together in this final subchapter; collectively these activities are referred to as the miscellaneous metal products manufacturing sector. The first two activities concern the transformation of metals, with NACE Group 28.4 covering forging, pressing, stamping and roll forming of metal, while NACE Group 28.5 covers the treatment and coating of metal and general mechanical engineering (such as turning, milling, welding or planning). The other two activities concern the manufacture of finished products for use in other industrial and construction activities, as well as final consumer markets. NACE Group 28.6 covers the manufacture of cutlery, tools and general hardware, such as locks and hinges, while NACE Group 28.7 covers the manufacture of other fabricated metal products, such as metal drums, light metal packaging, wire products, fasteners, baths and sinks, and household articles.

Euroforge⁽¹⁹⁾ estimate that some 60 % of forged metal products in the EU-25 are destined for the automotive industry. The global market for steel packaging is estimated by APEAL⁽²⁰⁾ to be valued at about 16 million tonnes per year, of which nearly 5 million tonnes are produced in the EU-25; with just over half (51 %) of the EU-25's output used within the food industry (both human and pet food segments). According to FEA⁽²¹⁾, Europe is the world's largest aerosol producer with approximately 4.8 billion aerosols produced in 2004.

STRUCTURAL PROFILE

The miscellaneous metal products manufacturing sector (NACE Groups 28.4 to 28.7) generated EUR 94.3 billion of value added in 2002, which equated to almost half (48.9 %) of the total output within the metals and metal products manufacturing (NACE Subsection DJ) sector, or 5.4 % of industrial (NACE Sections C to E) value added. In employment terms,

miscellaneous metal products manufacturing was slightly larger, as the 2.4 million persons employed accounted for 50.7 % of the metals and metal products manufacturing workforce, and 6.8 % of the industrial workforce.

Some 37.5 % of EU-25 sectoral value added in 2002 could be attributed to the treatment and coating of metal and general mechanical engineering (NACE Group 28.5), while the next largest subsector with 29.0 % of EU-25 value added was the manufacture of other fabricated metal products (NACE Group 28.7), followed by the manufacture of cutlery, tools and general hardware (NACE Group 28.6) with 19.1 %; the remaining 14.3 % of value added was created by forging, pressing, stamping and roll forming of metal (NACE Group 28.4).

More than one quarter (27.0 %) of the EU-25's value added for miscellaneous metal products manufacturing was generated in Germany in 2002. Italy (19.7 %) was the next largest producer, in value added terms, followed by the United Kingdom (14.1 %) and France (13.8 %), the only other Member States to report a double-digit share. A more detailed analysis of the breakdown of activity between the four NACE groups covered by this subchapter can be made for 18 of the EU-25 Member States⁽²²⁾ in 2002. This shows that Spain, Germany, the Netherlands and France were the

⁽¹⁹⁾ Euroforge (European Committee of Forging and Pressing Metal Industries), more information at: <http://www.euroforge.org>.

⁽²⁰⁾ APEAL (the Association of European Producers of Steel for Packaging) brings together four multinational producers of steel packaging that represent 92 % of European production: Arcelor Packaging International (FR/ES/BE), Corus Packaging Plus (NL/BE/NO/UK), Rasselstein (DE) and US Steel Kosice (SK and Serbia); more information at: <http://www.apeal.org>.

⁽²¹⁾ FEA (the European Aerosol Federation), more information at: <http://www.aerosol.org>; EU-15 excluding Ireland, the Czech Republic, Hungary, Poland, Switzerland and Turkey.

⁽²²⁾ Belgium and Latvia, 2001; Denmark, Estonia, Greece, Cyprus, Lithuania, Luxembourg and Malta, not available.

Table 9.18
Miscellaneous metal products (NACE Groups 28.4 to 28.7)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Miscellaneous metal products	94 284	5.4	2 426	6.8
Forging, pressing, roll forming; powder metall.	13 519	0.8	306	0.9
Treat. & coating of metals; general mech. eng.	35 403	2.0	978	2.7
Cutlery, tools and general hardware	17 979	1.0	430	1.2
Other fabricated metal products	27 383	1.6	712	2.0

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

most specialised in terms of forging, pressing, stamping and roll forming of metal, as this activity accounted for 17 % or 18 % of their sectoral value added. Belgium and Finland reported that more than half of their sectoral value added was derived from the treatment and coating of metal and general mechanical engineering subsector. The Czech Republic and Austria reported that more than 40 % of their sectoral value added was generated by the cutlery, tools and general hardware manufacturing subsector; while finally, more than half of sectoral value added was attributed to the manufacture of other fabricated metal products in Latvia, Poland and Ireland. Note that the manufacture of metals and fabricated metal products in Ireland and Latvia was a relatively small industry, as these two Member States accounted for 0.3 % and 0.0 % respectively of the EU-25's value added in 2002, proportions that were lower than their respective shares of EU-25 manufacturing (NACE Section D) value added.

Among the four NACE groups covered, the fastest expansion of output between 1993 and 2004 was recorded for forging, pressing, stamping and roll forming of metal, where the EU-25's index of production grew on average by 5.0 % per annum, despite output falling in 1996, 1999 and 2002. The treatment and coating of metal and general mechanical engineering was the only other NACE group to report output growth (3.9 % per annum) that exceeded the average for metals and metal products manufacturing (2.2 % per annum).

There was little deviation from the evolution of the domestic output price index for metals and metal products manufacturing as a whole among the four NACE groups covered by this subchapter, other than for the treatment and coating of metal and general mechanical engineering, where the EU-25's domestic output price index remained stable during 2003 and 2004, while increasing for the other headings.

Table 9.19
Miscellaneous metal products (NACE Groups 28.4 to 28.7)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (27.0)	Slovenia (171.1)	Germany (21.6)	Slovenia (150.6)
2	Italy (19.7)	Italy (153.5)	Italy (19.6)	Italy (142.1)
3	United Kingdom (14.1)	Czech Republic (120.0)	France (12.8)	Czech Republic (117.8)

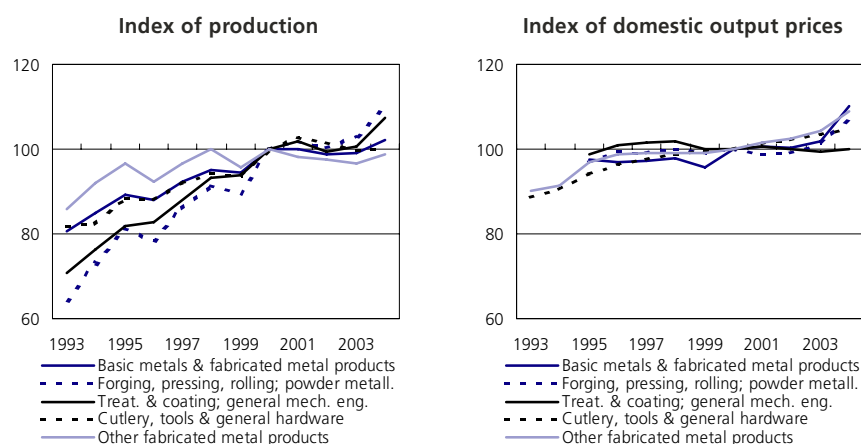
(1) Belgium, Cyprus and Latvia, 2001; Denmark, Estonia, Greece, Lithuania, Luxembourg and Malta, not available.
 (2) Belgium, Cyprus and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Lithuania, Luxembourg and Malta, not available.

(3) Cyprus, 2001; Denmark, Estonia, Greece, Lithuania, Luxembourg and Malta, not available.

(4) Cyprus and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Lithuania, Luxembourg and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 9.11
Miscellaneous metal products (NACE Groups 28.4 to 28.7)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Small and medium-sized enterprises (SMEs) with less than 250 persons employed contributed 76.8 % of the EU-25's value added in 2001 within the miscellaneous metal products manufacturing sector, while their contribution was 63.4 % for the metals and metal products manufacturing sector as a whole. The treatment

and coating of metal and general mechanical engineering recorded the highest proportion of value added from SMEs, some 93.6 % of the total, while the lowest share was registered for the cutlery, tools and general hardware manufacturing subsector, where SMEs accounted for 59.5 % of value added.

PRODUCTIVITY AND PROFITABILITY

The EU-25's miscellaneous metal products manufacturing sector generated EUR 38 900 of value added per person employed in 2002, some EUR 1 300 per person employed lower than the metals and metal products manufacturing average, and EUR 10 200 per person employed lower than the industrial average. Profitability for the EU-25's miscellaneous metal products manufacturing sector, as measured by the gross operating rate, stood at 12.6 % in 2002, which was 2.6 percentage points above the industrial average. Apparent labour productivity was consistently below national

industrial averages in each of the Member States ⁽²³⁾ for which data are available; as were average personnel costs and wage adjusted labour productivity ratios ⁽²⁴⁾. The wage adjusted labour productivity ratio was below 100 % in Poland in both 2001 and 2002, with negative value added in 2001 and personnel costs (adjusted for the share of employees in

⁽²³⁾ Belgium, Cyprus and Latvia, 2001; Denmark, Estonia, Greece, Lithuania, Luxembourg and Malta, not available.

⁽²⁴⁾ Belgium and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Lithuania, Luxembourg and Malta, not available.

persons employed) exceeding value added in 2002. However, the majority of the Member States ⁽²⁵⁾ reported gross operating rates for the miscellaneous metal products manufacturing sector that were above national industrial averages, with only Cyprus, Latvia, Poland and Slovakia exceptions to this rule.

EXTERNAL TRADE

The EU-25 ran a trade surplus with non-Community countries of EUR 2.3 billion for cutlery, tools and general hardware, and other fabricated metal products (CPA Groups 28.6 and 28.7) in 2004. EU-25 trade in these products accounted for 1.8 % of all industrial (CPA Sections C to E) exports, and for a 1.4 % share of all industrial imports. The level of EU-25 exports of other fabricated metal products (CPA Group 28.7) was somewhat higher, at EUR 8.9 billion, than that for cutlery, tools and general hardware (CPA Group 28.6), which stood at EUR 7.1 billion. Germany (EUR 6.7 billion) and Italy (EUR 5.1 billion) recorded by far the highest trade surpluses for cutlery, tools and general hardware, and other fabricated metal products in 2004, while the Czech Republic, Sweden, Austria and Slovenia were the only other Member States to record trade surpluses for these products.

⁽²⁵⁾ Belgium, Cyprus and Latvia, 2001; Denmark, Estonia, Greece, Ireland, Lithuania, Luxembourg and Malta, not available.

Figure 9.12**Miscellaneous metal products (NACE Groups 28.4 to 28.7)
Share of value added by enterprise size class, EU-25, 2001**

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 9.20**Production value of selected miscellaneous metal products (CPA Groups 28.4 to 28.7), EU-25, 2003 (EUR million)**

	Prodcom code(s)	
Drop forged (and precision forged) steel parts for land vehicles excl. locomotives and rolling stock	28.40.12.10	3 522.6
Other drop forged steel parts	28.40.12.40, 28.40.12.50, 28.40.12.70 and 28.40.12.80	1 738.1
Sheet metal forming of steel as parts for land vehicles excl. locomotives and rolling stock	28.40.13.10	8 808.8
Razors, parts thereof (excl. razor blades)	28.61.12.40	363.0
Table flatware (excl. table knives, incl. fish-knives and butter-knives) and similar tableware of stainless steel or other base metal	28.61.14.40	315.7
Spades, shovels, forks, picks, axes, secateurs, hedge shears and other hand tools for agriculture, horticulture or forestry	28.62.10.10 to 28.62.10.70	343.2
Saw blades	28.62.20.10 to 28.32.20.30, 28.32.20.50, 28.62.20.91 to 28.62.20.99	1 013.7
Base metal padlocks, locks and keys	28.63.11.30, 28.63.12.30, 28.63.12.50, 28.63.12.70 and 28.63.13.50	1 779.3
Tanks, casks, drums... (excl. for gas) of iron or steel, <50 litres	28.71.12.00	609.7
Cans other than for preserving food and drink of iron or steel, <50 litres	28.72.11.50	1 529.9
Aluminium tubular containers of a capacity <=300 litres, for any material except compressed or liquefied gas	28.72.12.10 and 28.72.12.30	1 103.9
Aluminium aerosol containers, with a capacity <=50 litres	28.72.12.60	288.5
Non-tubular aluminium containers of a capacity <50 litres, for any material except compressed or liquefied gas	28.72.12.80	1 569.7
Welded grill, netting and fencing manufactured from wire	28.73.13.20 and 28.73.13.30	2 406.0
Woven, not welded, wire mesh, grill, netting and fencing	28.73.13.43 and 28.73.13.45	1 307.5
Iron or steel drawing pins, nails, tacks (plated or not)	28.73.14.10 to 28.73.14.50	424.0
Nuts, bolts, washers, rivets (of stainless steel or iron and steel)	28.74.11.31, 28.74.11.83, 28.74.11.85, 28.74.12.10, 28.74.12.30, 28.74.12.50	987.7
Stainless steel sinks and wash basins	28.75.11.10	608.4
Baths of iron or steel	28.75.11.27	501.5
Sanitary ware and parts of sanitary ware of iron or steel, copper or aluminium	28.75.11.31, 28.75.11.35 and 28.75.11.37	1 016.3

Source: Eurostat, PRODCOM

Table 9.21

Manufacture of basic metals (NACE Division 27)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	235 936	12 931	4 323	1 098	63 464	16	20 171	31 652	372 37 588	48	225	30	1 901	1 982	:	:	:
Production (EUR million) (2)	227 499	12 599	4 181	1 062	59 018	15	19 837	28 746	360 37 080	47	229	30	1 551	1 864	:	:	:
Value added at factor cost (EUR million) (3)	55 958	2 596	868	354	16 215	2	4 630	6 297	108 7 029	15	64	6	417	253	:	:	:
Gross operating surplus (EUR million) (3)	17 341	374	274	82	3 778	1	1 934	1 397	28 2 507	8	44	1	96	26	:	:	:
Purchases of goods and services (EUR million)	:	10 006	3 587	751	46 896	15	15 759	25 124	257 30 751	33	189	22	1 477	1 721	:	:	:
Gross investment in tangible goods (EUR million)	:	457	145	58	2 563	1	1 007	964	20 2 018	4	14	2	:	83	:	:	:
Number of persons employed (thousands)	1 091	37	66	7	268	0	76	122	2	137	0	3	1	6	21	:	:
Personnel costs (EUR million) (3)	38 617	2 222	594	272	12 437	1	2 696	4 900	80 4 521	7	20	6	321	227	:	:	:
App. labour productivity (EUR thous./pers. emp.) (3)	49.8	64.1	13.2	51.4	60.5	6.8	60.6	51.8	50.5	51.4	44.9	19.9	5.2	69.9	12.0	:	:
Average personnel costs (EUR thous./employee) (3)	34.7	55.3	9.2	39.8	46.7	4.6	35.6	40.3	38.0	34.7	:	6.2	4.8	53.8	11.0	:	:
Wage adjusted labour productivity (%) (3)	143.4	115.9	144.3	129.3	129.7	148.9	:	169.9	128.4	133.0	148.2	:	322.3	107.5	130.0	109.7	:
Gross operating rate (%) (3)	7.3	2.8	6.3	7.5	6.0	4.5	:	9.6	4.4	7.6	6.7	17.3	22.1	1.5	5.1	1.3	:
Investment per person employed (EUR thousand)	:	12.5	2.2	8.4	9.6	2.0	:	13.2	7.9	9.5	14.8	12.4	4.0	1.7	:	4.0	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	5 403	7 569	5 059	1 506	806	2 146	5 062	8 341	20 343	847	:	2 572	:	:	7 128	3 375	:
Production (EUR million)	5 332	7 405	4 950	1 350	818	2 158	4 993	8 216	19 401	830	:	2 643	:	:	5 275	3 413	:
Value added at factor cost (EUR million)	1 488	2 342	1 135	341	162	446	1 160	2 519	4 230	65	:	543	:	:	1 203	1 191	:
Gross operating surplus (EUR million)	398	828	-33	163	26	201	469	892	501	-33	:	181	:	:	450	232	:
Purchases of goods and services (EUR million)	3 910	5 321	4 071	1 205	608	1 727	3 944	5 906	16 124	767	:	2 282	:	:	5 960	2 220	:
Gross investment in tangible goods (EUR million)	158	467	116	84	75	169	630	335	627	147	:	215	:	:	742	:	:
Number of persons employed (thousands)	22	32	72	11	9	32	17	37	96	24	:	92	:	:	13	17	:
Personnel costs (EUR million)	1 090	1 514	1 168	178	136	245	753	1 627	3 729	98	:	362	:	:	753	959	:
App. labour productivity (EUR thous./pers. emp.)	66.7	72.9	15.8	31.0	18.8	14.0	68.6	67.7	44.0	2.7	:	5.9	:	:	96.0	71.6	:
Average personnel costs (EUR thous./employee)	48.9	47.2	16.3	16.5	15.9	7.7	44.6	43.9	39.3	4.1	:	3.9	:	:	60.1	:	:
Wage adjusted labour productivity (%)	136.5	154.5	97.0	188.2	118.2	182.0	153.9	154.4	111.9	66.0	:	149.0	:	:	159.7	:	:
Gross operating rate (%)	7.4	10.9	-0.6	10.8	3.2	9.4	9.3	10.7	2.5	-3.9	:	7.0	:	:	6.3	6.9	:
Investment per person employed (EUR thousand)	7.1	14.5	1.6	7.6	8.7	5.3	37.3	9.0	6.5	6.1	:	2.3	:	:	59.2	:	:

(1) Cyprus and Switzerland, 2001. (2) EU-25, 2001. (3) EU-25, Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 9.22

Manufacture of fabricated metal products, except machinery and equipment (NACE Division 28)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	365 654	9 628	5 750	5 252	89 191	303	31 711	53 840	1 477 71 953	180	140	165	925	2 447	:	:	:
Production (EUR million) (2)	357 669	9 538	5 548	5 075	85 086	272	31 042	52 035	1 428 72 217	163	153	162	907	2 083	:	:	:
Value added at factor cost (EUR million) (3)	137 969	3 140	1 961	2 256	36 176	78	11 513	19 595	540 25 474	66	59	52	253	686	:	:	:
Gross operating surplus (EUR million) (3)	41 880	879	952	552	8 420	24	3 720	3 912	142 11 106	22	36	16	67	248	:	:	:
Purchases of goods and services (EUR million)	:	5 565	3 903	3 068	52 520	229	20 772	33 533	931 47 330	117	102	116	668	1 722	:	:	:
Gross investment in tangible goods (EUR million)	:	518	347	342	3 637	15	1 534	1 859	50 4 346	11	15	15	:	223	:	:	:
Number of persons employed (thousands)	3 700	62	166	47	774	9	348	463	14 685	3	7	10	5	75	:	:	:
Personnel costs (EUR million) (3)	96 089	2 261	1 009	1 705	27 757	54	7 794	15 683	397 14 368	44	23	36	186	438	:	:	:
App. labour productivity (EUR thous./pers. emp.) (3)	37.2	46.5	11.8	48.4	46.7	8.2	33.0	42.4	39.9	37.2	20.8	8.2	5.0	54.2	9.1	:	:
Average personnel costs (EUR thous./employee) (3)	28.4	37.0	7.7	38.2	37.4	5.8	24.4	34.4	30.0	26.7	:	3.2	3.5	40.4	6.7	:	:
Wage adjusted labour productivity (%) (3)	131.0	125.7	152.6	126.5	124.9	142.0	:	135.5	123.1	133.2	139.6	:	256.4	141.5	133.9	135.4	:
Gross operating rate (%) (3)	11.4	9.3	16.6	10.5	9.4	7.9	:	11.7	7.3	9.6	15.4	12.1	25.2	9.8	7.3	10.1	:
Investment per person employed (EUR thousands)	:	8.3	2.1	7.3	4.7	1.6	:	4.4	4.0	3.7	6.3	3.6	2.1	1.5	:	3.0	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	15 100	8 637	7 275	4 099	1 816	837	4 941	9 217	40 892	390	:	999	:	:	2 769	11 790	:
Production (EUR million)	14 466	8 127	6 769	4 017	1 772	779	4 899	8 885	39 161	340	:	938	:	:	2 625	11 965	:
Value added at factor cost (EUR million)	5 029	3 576	2 318	1 371	528	239	1 930	3 598	18 563	83	:	296	:	:	1 103	5 624	:
Gross operating surplus (EUR million)	1 414	1 164	174	452	113	83	592	933	6 911	34	:	115	:	:	226	1 229	:
Purchases of goods and services (EUR million)	10 126	5 175	5 113	2 799	1 224	596	3 111	5 727	21 978	318	:	755	:	:	1 679	6 330	:
Gross investment in tangible goods (EUR million)	457	481	290	265	102	51	266	478	1 612	34	:	144	:	:	81	:	:
Number of persons employed (thousands)	98	68	209	82	34	31	41	79	375	32	:	85	:	:	19	83	:
Personnel costs (EUR million)	3 615	2 412	2 144	918	415	157	1 347	2 666	11 653	50	:	181	:	:	877	4 395	:
App. labour productivity (EUR thous./pers. emp.)	51.4	52.6	11.1	16.8	15.7	7.8	47.0	45.6	49.5	2.6	:	3.5	:	:	56.8	67.9	:
Average personnel costs (EUR thous./employee)	38.9	36.9	13.1	12.6	13.6	5.1	33.8	35.9	33.2	1.8	:	2.2	:	:	45.5	:	:
Wage adjusted labour productivity (%)	132.2	142.6	84.4	132.9	115.0	152.6	139.1	126.9	149.3	148.0	:	158.7	:	:	124.8	:	:
Gross operating rate (%)	9.4	13.5	2.4	11.0	6.2	9.9	12.0	10.1	16.9	8.7	:	11.5	:	:	8.2	10.4	:
Investment per person employed (EUR thousand)	4.7	7.1	1.4	3.2	3.0	1.7	6.5	6.1	4.3	1.1	:	1.7	:	:	4.2	:	:

(1) Cyprus and Switzerland, 2001. (2) EU-25, 2001. (3) EU-25, Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Machinery and equipment



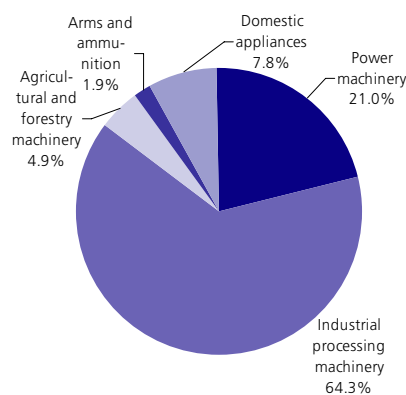
Machinery and tools produced within the machinery and equipment manufacturing sector cover items for both general use and specific use, such as agricultural, industrial or construction process machinery. Many of the products made within this sector are goods which are integrated or installed into more complex products, or alternatively they are capital equipment used in other industries. These activities are therefore particularly vulnerable to cyclical fluctuations in the business economy. Customers reluctant to change their equipment and invest in new machines, tools and appliances in times of recession may however increase their demand for after sales service and repair during these periods of weak economic growth, thus raising the demand for secondary activities among those enterprises active in this sector.

The European legal framework for the machinery and equipment manufacturing sector is essentially based on the machinery Directive ⁽¹⁾ that provides the regulatory basis for the harmonisation of essential health and safety requirements at an EU level. It covers machinery for professional use and also machinery sold to consumers for domestic use. The Directive on noise emissions ⁽²⁾ sets out both noise limits and labelling requirements for a number of types of machines intended for use outdoors. With a view to progressively reducing permitted noise limits, the directive has been introduced in two phases: the first stage became mandatory on 3 January 2002; the second will come into force on 3 January 2006. On 1 August 2003, the Commission adopted a proposal for a Directive on eco-design requirements for energy-using products, aiming to make the design of products such as hairdryers, computers, fridges, or office equipment more environmentally-friendly. At the time of drafting this publication the proposal is currently being examined by the Parliament and the Council.

⁽¹⁾ Directive 98/37/EC of 22 June 1998.

⁽²⁾ Directive 2000/14/EC of 8 May 2000.

Figure 10.1
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

In 2001, machinery and equipment manufacturing (NACE Division 29) was the second largest manufacturing NACE division in value added terms, after the manufacture of food products and beverages (NACE Division 15). A full set of value added data for EU-25 manufacturing divisions ⁽³⁾ is not available for 2002, but the manufacture of chemicals and chemical products (NACE Division 24) overtook the machinery and equipment manufacturing sector that was then the third largest NACE Division. With EUR 164.7 billion of value added generated in the EU-25, machinery and equipment manufacturing accounted for 9.4 % of total industrial (NACE Sections C to E) value added. There were 3.5 million persons employed in this sector in the EU-25 in 2002, which equalled 9.8 % of the industrial workforce, slightly more than the value added share.

⁽³⁾ NACE Divisions 16, 26 to 28, 32 and 33, not available.

This chapter covers NACE Division 29, in other words all mechanical machinery and equipment, except for transport equipment. This sector provides equipment for use in many mining, manufacturing, energy and construction sectors, as well as producing domestic appliances. Furthermore, the machinery and equipment manufacturing sector covers weapons and ammunition, whether for military or sporting uses, including some military vehicles such as tanks, but not military aircraft or warships (which are classified under the manufacture of transport equipment – see Chapter 12).

NACE

- 29: manufacture of machinery and equipment n.e.c.;
- 29.1: manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines;
- 29.2: manufacture of other general purpose machinery;
- 29.3: manufacture of agricultural and forestry machinery;
- 29.4: manufacture of machine-tools;
- 29.5: manufacture of other special purpose machinery;
- 29.6: manufacture of weapons and ammunition;
- 29.7: manufacture of domestic appliances n.e.c.

Within the EU-25's machinery and equipment manufacturing sector, the largest activities in 2002, each generating more than one fifth of the sector's value added, were the manufacture of other general purpose machinery (NACE Group 29.2), other special purpose machinery (NACE Group 29.5) - both included in Subchapter 10.2 on industrial processing machinery - and the manufacture of power machinery (NACE Group 29.1) - covered by Subchapter 10.1. None of the four other NACE groups in this sector contributed more than 10 % to sectoral value added.

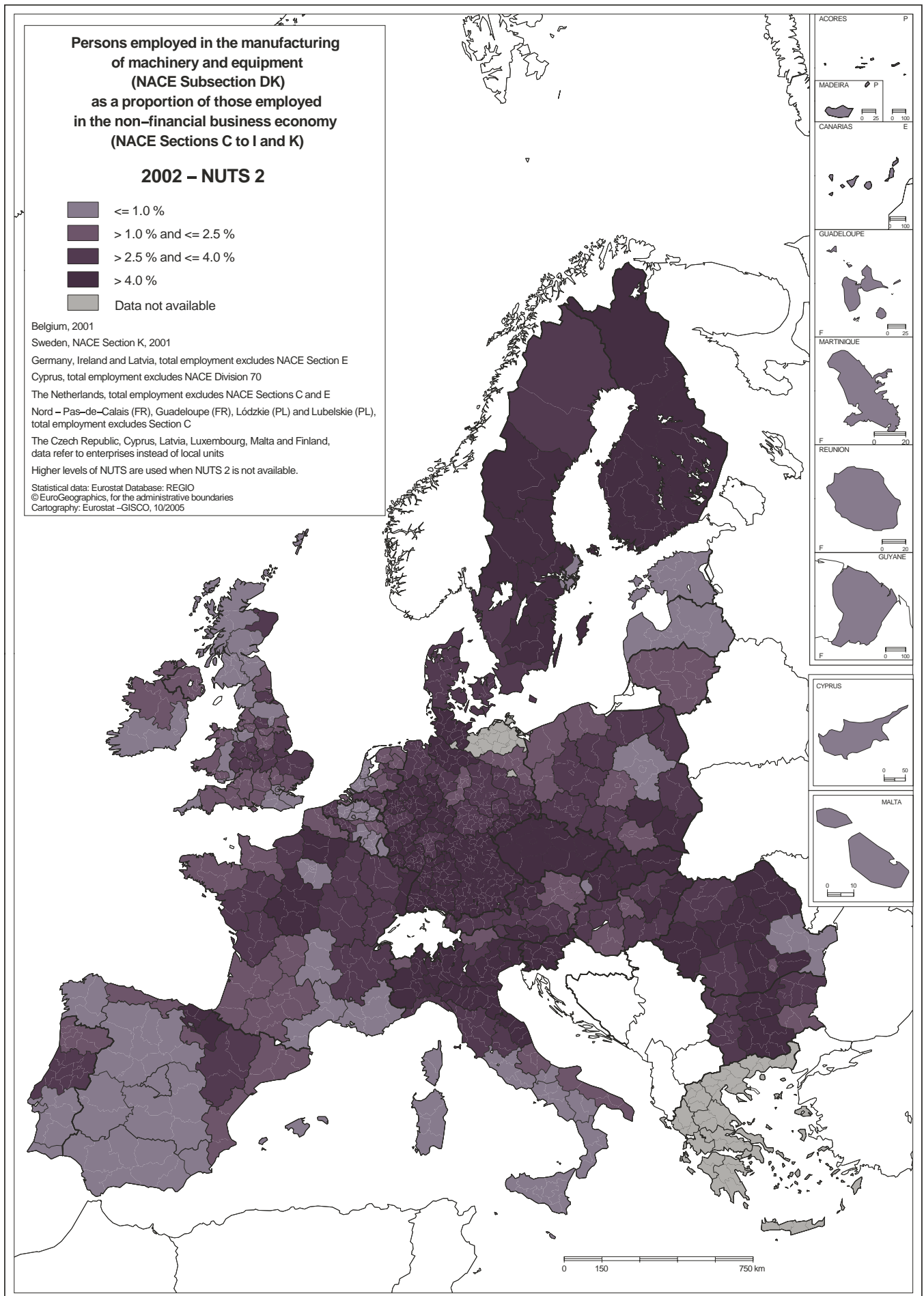


Table 10.1
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Manufacture of machinery and equipment n.e.c.	164 712	9.4	3 527	9.8
Manufacture of power machinery	34 619	2.0	665	1.9
Manufacture of industrial processing machinery	105 886	6.0	2 308	6.4
Manufacture of agricultural and forestry machinery	8 021	0.5	205	0.6
Manufacture of arms and ammunition	3 204	0.2	70	0.2
Manufacture of domestic appliances	12 808	0.7	278	0.8

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Germany alone contributed 37.2 % of the EU-25's value added in machinery and equipment manufacturing in 2002. This was the third highest proportion of EU-25 value added accounted for by Germany among the industrial NACE divisions, behind the manufacture of motor vehicles (NACE Division 34) and the manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31). The next largest Member States in this sector were Italy (17.4 % of EU-25 value added) and the United Kingdom (10.8 %), while no other Member State ⁽⁴⁾ generated a double-digit share of EU-25 value added.

With the exception of the manufacture of weapons and ammunition, Germany was the largest manufacturer among the Member States in value added terms for each of the machinery and equipment manufacturing NACE groups covered by this chapter. Its highest contribution was in the manufacture of machine-tools (NACE Group 29.4), where Germany accounted for almost half (49.5 %) of the EU-25's value added. Germany was also the most specialised Member

⁽⁴⁾ Belgium and Latvia, 2001; Greece, not available.

Table 10.2
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (37.2)	Germany (147.3)	Germany (30.2)	Denmark (142.8)
2	Italy (17.4)	Italy (135.5)	Italy (16.8)	Germany (140.2)
3	United Kingdom (10.8)	Sweden (131.5)	United Kingdom (9.3)	Finland (132.3)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

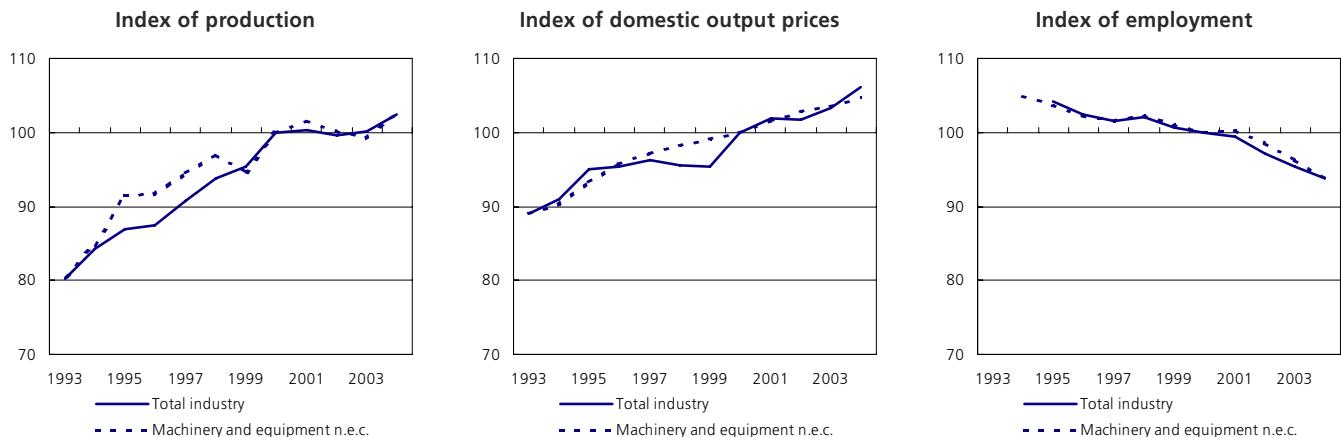
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

State in the manufacture of machinery and equipment in terms of this sector's share of industrial value added: machinery and equipment manufacturing accounted for 13.8 % of German industrial value added. Italy was also relatively specialised in machinery and equipment manufacturing, as value added from this activity contributed 12.7 % to Italian industrial value added. Other Member States that were relatively more specialised than

the EU-25 average included Sweden (12.3 %), Austria (11.2 %), Denmark (11.1 %) and Finland (9.5 %).

Annual short-term statistics show that over the years 1993 to 2001, the EU-25's production index generally recorded an upward trend, with output growing on average by 2.9 % per annum. However, a significant fall was posted in 1999, when the output of machinery and equipment manufacturing decreased by 2.5 %

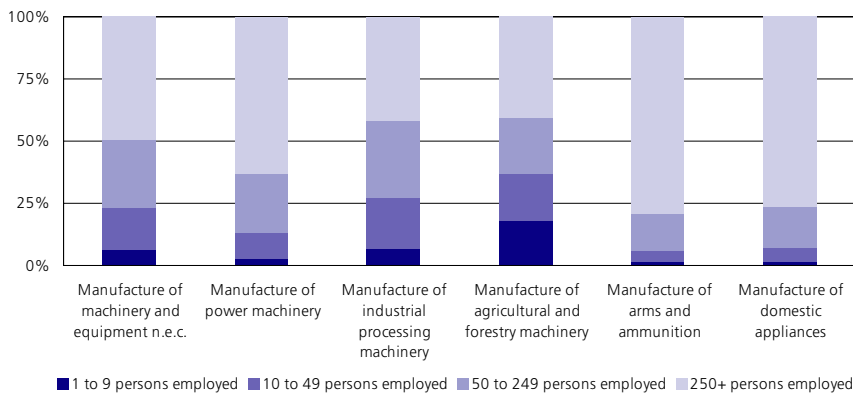
Figure 10.2
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 10.3

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

compared with the previous year, and reductions were also recorded in 2002 and 2003, as the EU-25's index of production fell respectively by 1.3 % and 0.9 %. Nonetheless, the most recent annual data for 2004, showed signs of recovery, as the production index for this activity rose by 3.4 % compared with 2003.

Annual average growth rate for the index of domestic output prices in the EU-25's machinery and equipment manufacturing sector was 1.5 % per annum over the time period from 1993 to 2004, with growth recorded every year. For comparison, over the same period, EU-25 domestic output prices for total industry fell in 1998, 1999 and 2002 (by respectively 0.7 %, 0.2 %, and 0.2 %).

An analysis by size class reveals that almost one half (49.2 %) of the EU-25's machinery and equipment manufacturing value added in 2001 was generated by large enterprises (with 250 or more persons employed). This was a smaller proportion than the industrial average, where

Table 10.3

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years (2)	50+ years (3)
EU-25	82.2	115.7	94.7	102.2	9.4	66.0	24.5
BE	85.9	112.5	88.5	98.8	9.7	69.4	20.8
CZ	76.0	119.7	98.1	100.8	7.5	60.2	32.2
DK	80.8	114.9	93.7	102.9	7.8	68.3	24.0
DE	82.5	114.0	93.1	104.3	10.2	63.0	26.8
EE	:	:	:	:	:	:	:
EL	90.7	123.9	99.7	101.5	11.2	71.1	21.1
ES	86.9	115.2	97.9	100.8	11.2	62.1	26.6
FR	80.9	113.1	95.6	101.5	8.9	67.9	23.3
IE	83.8	120.6	95.4	102.0	18.7	66.6	23.3
IT	82.2	115.5	96.1	102.3	8.6	72.9	18.5
CY	77.8	118.2	91.7	96.7	:	60.0	:
LV	70.6	120.3	100.0	105.0	:	54.4	57.5
LT	89.3	162.6	96.4	99.9	:	69.3	:
LU	86.9	106.4	98.2	105.2	:	77.6	:
HU	83.8	137.0	98.4	101.6	5.4	72.6	22.0
MT	:	:	:	:	:	:	:
NL	87.0	111.6	86.5	116.9	6.5	76.0	17.5
AT	85.0	115.6	92.9	104.1	14.3	67.3	18.4
PL	81.3	120.2	97.2	101.8	10.0	70.8	19.3
PT	78.7	133.5	98.8	101.3	16.3	74.0	17.2
SI	75.4	119.0	95.9	100.1	8.9	71.2	19.9
SK	81.9	132.3	99.2	100.6	13.6	61.5	24.9
FI	84.7	117.5	95.0	101.2	9.6	64.3	26.2
SE	83.6	112.0	94.9	104.0	6.3	62.2	31.4
UK	79.6	106.4	92.9	102.2	9.3	58.5	32.1

(1) Greece and Portugal, 2003; Ireland, 2001.

(2) Cyprus, 2003.

(3) Latvia, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

enterprises from this size class generated 57.2 % of total value added. Medium-sized enterprises (with 50 to 249 persons employed) generated 27.4 % of total value added in the machinery and equipment sector, compared with an industrial average of 21.0 %.

In terms of employment, large enterprises employed 43.5 % of the EU-25's workforce in 2001, a proportion that was very close to the industrial average of 44.1 %. More than one quarter (28.2 %) of employment was concentrated among those employed by medium-sized enterprises within the manufacture of machinery and equipment in 2001, almost five percentage points above the industrial average (23.4 %).

EMPLOYMENT CHARACTERISTICS

The Labour Force Survey suggests that men made up 82.2 % of the EU-25's machinery and equipment workforce in 2004, a higher share than the industrial average of 71.0 %. This higher proportion of male employment was observed in all the Member States ⁽⁵⁾, with the largest difference between the proportion of men working in the machinery and equipment sector and the national industrial average being posted in Hungary (22.6 percentage points) and Slovakia (20.0 percentage points).

Full time employment was dominant among the EU-25's machinery and equipment workforce in 2004, accounting for 94.7 % of those employed, a somewhat higher proportion than for total industry, where 92.7 % of those employed worked on a full-time basis. Only in Belgium and Cyprus did full-time employment account for a slightly lower proportion of the workforce within the manufacture of machinery and equipment than for total industry, while in Lithuania and Slovenia the proportions were similar.

A breakdown by age of the workforce for the EU-25's machinery and equipment manufacturing sector showed that 9.4 % of those employed in 2004 were aged between 15 and 24, some 66.0 % between 25 and 49, while the remainder were persons aged 50 or more; these proportions were rather similar to the total industry average.

⁽⁵⁾ Estonia and Malta, not available.

Table 10.4

Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Luxembourg (63.5)	Germany (47.5)	Latvia (192.4)	Latvia (23.6)
2	Belgium (62.4)	Luxembourg (46.4)	Ireland (150.8)	Malta (13.1)
3	Austria (60.0)	Belgium (44.8)	Slovakia (148.4)	Ireland (12.5)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 46 700 per person employed in the EU-25's machinery and equipment manufacturing sector in 2002, a level of productivity that was EUR 2 400 below the industrial average. Turning to personnel costs, machinery and equipment manufacturing employees cost an average of EUR 36 600 each in 2002, which was EUR 4 300 more than the manufacturing (NACE Section D) average. This relatively high level of average personnel costs meant the wage adjusted labour productivity ratio was relatively low at 127.7 %, compared with a manufacturing average of 140.3 %. Indeed, the manufacture of domestic appliances (NACE Group 29.7) was the only NACE group within the machinery and equipment manufacturing sector where the wage adjusted labour productivity ratio was above the manufacturing average in 2002.

The gross operating rate expresses the relationship between the gross operating surplus and turnover. The gross operating surplus in the EU-25's machinery and equipment sector was equivalent to 8.1 % of turnover in 2002, close to the manufacturing average of 8.8 %, but below the industrial average of 10.0 %.

Table 10.5
Machinery and equipment n.e.c. (CPA Division 29)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Machinery and equipment n.e.c.	140 066	15.6	14.9	61 167	6.5	7.3	78 899	229.0
Machinery for the production and use of mech. power, except aircraft, vehicle and cycle engines	33 398	3.7	3.4	17 558	1.9	2.0	15 839	190.2
Other general purpose machinery	31 998	3.6	3.4	13 520	1.4	1.6	18 479	236.7
Agricultural and forestry machinery	4 917	0.5	0.5	1 719	0.2	0.2	3 198	286.1
Machine-tools	12 651	1.4	1.4	8 138	0.9	1.2	4 513	155.5
Other special purpose machinery	48 744	5.4	5.4	12 918	1.4	1.8	35 827	377.3
Weapons and ammunition	656	0.1	0.1	304	0.0	0.0	353	216.1
Domestic appliances n.e.c.	7 647	0.9	0.8	6 987	0.7	0.5	659	109.4

Source: Eurostat, Comext

EXTERNAL TRADE

In 2004, the external trade of machinery and equipment (CPA Division 29) generated a trade surplus valued at EUR 78.9 billion in the EU-25, the largest of any CPA division for industrial goods. Indeed, the EU-25 exported EUR 140.1 billion of machinery and equipment (to non-Community countries), while importing goods for EUR 61.2 billion. All of the CPA groups within this CPA division recorded a trade surplus, the largest being for other special purpose machinery (CPA Group 29.5) that is part of industrial processing machinery - see Subchapter 10.2 - with a surplus of EUR 35.8 billion, equivalent to almost half (45.4 %) of the trade surplus for all machinery and equipment. The EU-25 also registered a surplus in excess of EUR 10.0 billion for power machinery (CPA Group 29.1) and for other general purpose machinery (CPA Group 29.2).

Looking at the contribution of each machinery and equipment CPA group to exports and imports in 1999 and 2004, the most significant change concerned domestic appliances (CPA Group 29.7) which represented 7.2 % of the EU-25's imports of machinery and equipment in 1999, a share which had risen to 11.4 % by 2004. However, the increase in imports was not accompanied by a downward trend in the production of these goods in the EU-25. According to annual short-term statistics, the EU-25 index of production for the manufacture of domestic appliances contracted in 1999, after which growth was recorded each year during the period 2000 to 2004.

Unsurprisingly, given its dominance of the machinery and equipment manufacturing sector in the EU-25, Germany was the largest exporter of machinery and equipment in 2004, accounting for almost one third (32.4 %) of the EU-25's exports (intra- and extra-EU combined). The second largest exporter was Italy (18.2 %), while France (9.3 %) and the United Kingdom (8.7 %) followed in the ranking. Italy, where exports of machinery and equipment accounted for 21.6 % of all exports of industrial goods, was the most specialised Member State in export terms, more so than Germany (15.8 % of industrial exports) and Slovenia (also 15.8 %) who were the next most specialised Member States. Germany was also the largest importer of machinery and equipment, with a 17.7 % share of EU imports in 2004 (intra- and extra-EU trade), followed by France (13.5 %) and the United Kingdom (11.9 %). Machinery and equipment represented 12.0 % of both the Czech Republic's and Poland's total imports of industrial goods, the largest share among the Member States.

10.1: POWER MACHINERY

The manufacture of power machinery (NACE Group 29.1) concerns the manufacture of machinery for the production and use of mechanical power. This includes internal combustion engines, as well as steam, gas, wind and hydraulic turbines, pumps, compressors, taps, valves, bearings and transmission equipment. This NACE group excludes the manufacture of propulsion engines for aircraft, vehicles or cycles. Power machines transform different forms of energy, for example, thermal or electrical energy into motion.

The power machinery subsector covers a wide range of products, from relatively standardised mass produced items to engines and turbines often requiring high levels of research and development. Recent years have also seen increased importance for electronic content and miniaturisation as some of the main technical innovations in this area. A wide range of industrial clients are served by manufacturers of the power machinery sector and their activities closely depend on investments made by upstream activities.

In terms of legislation specific to the power machinery sector, since May 2002 when the pressure equipment Directive ⁽⁶⁾ became obligatory throughout the EU, there have been several Commission communications concerning harmonised standards for pressure equipment.

STRUCTURAL PROFILE

In 2002, power machinery (NACE Group 29.1) generated EUR 34.6 billion of value added in the EU-25 and employed 665 100 persons, which represented respectively 2.0 % of value added in total industry (NACE Sections C to E) and slightly less in terms of the number of persons employed in the industrial workforce (1.9 %).

Based on an aggregate for the 16 Member States ⁽⁷⁾ for which data are available for all four NACE classes that compose the power machinery sector, the manufacture of bearings, gears, gearing and driving elements (NACE Class 29.14) and the manufacture of pumps and compressors (NACE Class 29.12) were the largest subsectors, generating just under 30 % of sectoral value added. Slightly smaller was the manufacture of taps and valves (NACE Class 29.13) with about one quarter of sectoral value added. The manufacture of engines and turbines (NACE Class 29.11) was the smallest subsector contributing about 16 % of the sector's value added.

⁽⁶⁾ Directive 97/23/EC of the European Parliament and of the Council of 29 May 1997.

⁽⁷⁾ Belgium, Greece and Latvia, not available; Denmark, Estonia, Ireland, Luxembourg, Malta and Sweden, incomplete data set.

Table 10.6
Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (NACE Group 29.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (39.9)	Denmark (185.4)	Germany (35.1)	Denmark (229.8)
2	Italy (16.4)	Germany (158.0)	Italy (14.2)	Germany (163.3)
3	United Kingdom (11.7)	Slovakia (138.9)	France (10.8)	Slovakia (153.8)

(1) Belgium and Latvia, 2001; Estonia, Greece and Luxembourg, not available.

(2) Belgium and Latvia, 2001; Estonia, Greece, Ireland and Luxembourg, not available.

(3) Estonia, Greece and Luxembourg, not available.

(4) Latvia, 2001; Estonia, Greece, Ireland and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 10.7
Production value of selected power machinery (CPA Groups 29.1), EU-25, 2003
(EUR million)

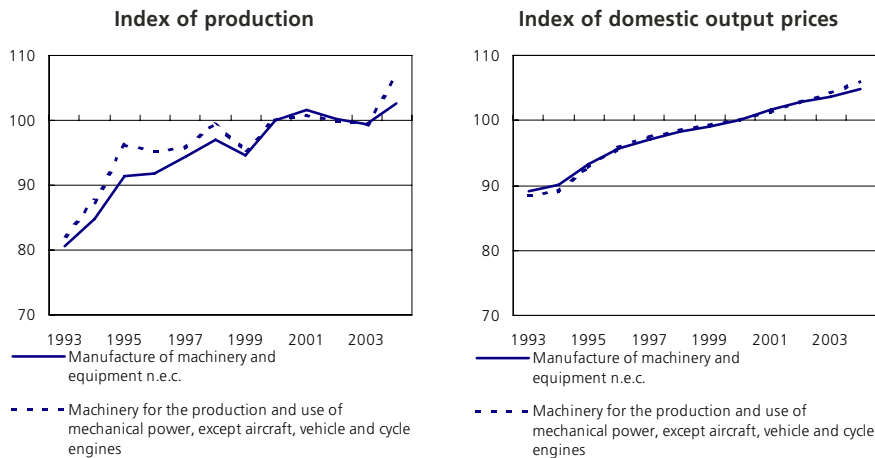
	Prodcom code(s)		
Marine propulsion compression-ignition internal combustion piston engines (diesel or semi-diesel)	29.11.13.11, 29.11.13.13, 29.11.13.15, 29.11.13.17 and 29.11.13.19		1 768.8
Industrial use compression-ignition internal combustion piston engines (diesel or semi-diesel)	29.11.13.31, 29.11.13.33, 29.11.13.35, 29.11.13.37, 29.11.13.53, 29.11.13.57 and 29.11.13.75		2 903.4
Parts of pumps for liquids and for liquid elevators	29.12.42.00		2 077.2
Petrol and oil dispensing pumps, pumps for dispensing liquids, fitted or designed to be fitted with a measuring device and fuel, lubricating or cooling-medium pumps for internal combustion engines	29.12.21.10, 29.12.21.30 and 29.12.21.70		1 700.5
Parts for taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats and the like (incl. for pressure reducing-valves and thermostatically controlled valves)	29.13.20.00		1 418.1
Valves for the control of pneumatic power transmission for pipes, boiler shells, tanks, vats and the like	29.13.11.55		908.2
Ball bearings	29.14.10.30		2 682.7
Parts of transmission, cam & crankshafts, cranks, plain shaft bearings, gears, ball/roller screws, gearboxes, torque converters, flywheels, pulleys, clutches, shaft couplings, universal joints	29.14.33.50		2 342.2

Source: Eurostat, PRODCOM

Germany was by far the largest contributor to the EU-25's power machinery value added in 2002, generating almost 40 % of total value added. Italy, with a power machinery manufacturing sector that accounted for 16.4 % of the EU-25's value added was the second largest contributor, while the United Kingdom generated 11.7 % of the total and France 11.1 %.

Annual short-term statistics for the production index for the manufacture of power machinery in the EU-25 showed a general upward trend over the period 1994 to 2004, with similar developments to those for the whole of machinery and equipment manufacturing (NACE Division 29), albeit with more pronounced movements. Indeed, there was a cyclical pattern to the evolution of the index of production, with rapid growth in 1994 and 1995 (by more than 6 %), while a decrease of 1.2 % was recorded in 1996.

Figure 10.4
Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (NACE Group 29.1)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 10.8
Manufacture of machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (NACE Group 29.1)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Belgium (92.4)	Belgium (49.9)	Latvia (195.0)	Latvia (18.5)
2	Austria (66.7)	Germany (48.4)	Slovakia (193.2)	Ireland (15.7)
3	Sweden (63.8)	Sweden (45.1)	Belgium (185.2)	Slovakia (15.0)

(1) Belgium and Latvia, 2001; Estonia, Greece and Luxembourg, not available.

(2) Belgium and Latvia, 2001; Estonia, Greece, Cyprus and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Output contracted again in 1999 (by 4.3 %) and in 2002 and 2003, as the production index fell below its 2000 level, with losses of 1.0 % and 0.4 %. Nonetheless, 2004 was a year of recovery as the production index in the EU-25's machinery and equipment sector recorded growth of 7.5 %.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 52 100 per person employed in the EU-25's manufacture of power machinery sector in 2002, some EUR 5 400 above the average for the manufacture of machinery and equipment. This level of productivity was equivalent to 133.1 % of average personnel costs (EUR 39 100), once adjusted for the share of employees in persons employed, which was a somewhat higher wage adjusted labour productivity ratio than for the whole of machinery and equipment (127.7 %). Lithuania, Malta and Poland were the only Member States⁽⁸⁾ where the wage adjusted labour productivity ratio for the manufacture of power machinery was below 100 %.

EXTERNAL TRADE

In 2004, the EU-25 exported EUR 33.4 billion of power machinery (CPA Group 29.1), while importing power machinery goods to the value of EUR 17.6 billion, leading to a trade surplus of EUR 15.8 billion. Among the four CPA classes making up power machinery, pumps and compressors (CPA Class 29.12) accounted for the largest proportion of exports (37.4 %) and imports (31.6 %).

As in a majority of machinery and equipment CPA groups, Germany had by far the largest trade surplus among the Member States (EUR 14.0 billion) for power machinery, followed by Italy (EUR 6.7 billion). At the other end of the spectrum, the largest trade deficits were recorded in Spain and Poland, where deficits rose to above EUR 1.3 billion in 2004.

⁽⁸⁾ Belgium and Latvia, 2001; Estonia, Greece, Cyprus and Luxembourg, not available.

Table 10.9
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines (CPA Group 29.1)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Machinery for the production and use of mechanical power, except aircraft, vehicle and cycle engines	33 398	3.7	3.4	17 558	1.9	2.0	15 839	190.2
Engines and turbines except aircraft, vehicle and cycle engines	8 007	0.9	0.9	5 263	0.6	0.6	2 744	152.1
Pumps and compressors	12 476	1.4	1.2	5 541	0.6	0.7	6 935	225.1
Taps and valves	6 856	0.8	0.7	3 199	0.3	0.3	3 657	214.3
Bearings, gears, gearing and driving elements	6 059	0.7	0.6	3 555	0.4	0.4	2 504	170.4

Source: Eurostat, Comext

10.2: INDUSTRIAL PROCESSING MACHINERY

The manufacture of industrial processing machinery is made up of the manufacture of general purpose machinery, machine-tools, and special purpose machinery, as covered by NACE Groups 29.2, 29.4 and 29.5.

Table 10.10 **Manufacture of other general purpose machinery; machine-tools; other special purpose machinery (NACE Groups 29.2, 29.4 and 29.5)**
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Manufacture of industrial processing machinery	105 886	6.0	2 308	6.4
Manufacture of other general purpose machinery	49 009	2.8	1 051	2.9
Manufacture of machine-tools	14 519	0.8	317	0.9
Manufacture of other special purpose machinery	42 358	2.4	941	2.6

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The distinction between general and special purpose machinery is based on the use made of the machinery by industrial customers. General purpose machinery includes lifting, handling and cooling equipment, as used by a broad range of downstream sectors within industrial, construction, distribution and transport activities. On the other hand, manufacturers of special purpose equipment are focused on providing equipment that is designed for a specific (sometimes unique) use within a particular activity, for example, weaving equipment in textile manufacturing, or food processing equipment. A large part of the output of machine-tools manufacturing is used within the various engineering sectors covered by the remainder of this chapter, as well as Chapters 11 and 12.

STRUCTURAL PROFILE

In 2002, the EU-25's manufacture of industrial processing machinery (NACE Groups 29.2, 29.4 and 29.5) generated EUR 105.9 billion of value added, equivalent to 6.0 % of the industrial (NACE Sections C to E) total and 64.3 % of the machinery and equipment (NACE Division 29) total. In the EU-25's industrial processing machinery sector there were 2.3 million persons employed in 2002, and as such this sector contributed 6.4 % to EU-25 industrial employment and 65.4 % to the machinery and equipment workforce.

Among the three NACE groups making up the manufacture of industrial processing machinery, the largest share of EU-25 value added in 2002 was generated by the manufacture of other general purpose machinery (NACE Group 29.2) that accounted for a 46.3 % share, followed closely by other special purpose machinery (NACE Group 29.5) with a 40.0 % share. The manufacture of machine tools (NACE Group 29.4) was by far the smallest of the three subsectors.

Germany's contribution to EU-25 value added in the manufacture of industrial processing machinery was 38.2 % in 2002, more than double the share of Italy (17.3 %) which had the second largest contribution. Germany was the largest manufacturer in each of the three subsectors, particularly for the manufacture of machine-tools, where its value added was almost half of the EU-25 total.

Italy and Austria were relatively specialised in the manufacture of other general purpose machinery, as this was the second largest industrial NACE group in both of these countries (in terms of value added), behind the production and distribution of electricity (NACE Group 40.1). In Finland, the manufacture of other special purpose machinery was the third largest industrial NACE group, behind the manufacture of pulp, paper and paper board (NACE Group 21.1) and the production and distribution of electricity.

In 2002, in terms of the contribution of industrial processing machinery to total industry value added, Germany was the most specialised Member State (9.1 % of German industrial value added), while Austria (8.2 %), Italy, Sweden (both 8.1 %) and Finland (6.9 %) also showed high specialisation ratios for industrial processing machinery when compared with the EU-25 average (6.0 %).

EU-25 production indices for the three NACE groups that make up the manufacture of industrial processing machinery showed a similar progression during the period between 1993 and 2004, with an upward trend observed from 1994 to 2001, other than a contraction in output in 1999 for two of the three groups. Over the period 1993 to 2001, average annual growth rates of 4.9 %, 2.8 % and 2.7 % per annum were recorded for EU-25 output for the manufacture of machine tools, other general purpose machinery, and other special purpose machinery. In 2002 and 2003, the index of production fell for all three NACE groups, with

Table 10.11 **Manufacture of other general purpose machinery; machine-tools; other special purpose machinery (NACE Groups 29.2, 29.4 and 29.5)**
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (38.2)	Germany (151.3)	Germany (31.1)	Finland (145.4)
2	Italy (17.3)	Austria (136.6)	Italy (17.3)	Germany (144.5)
3	United Kingdom (10.1)	Italy (135.4)	United Kingdom (8.8)	Austria (133.1)

(1) Belgium, 2001; Estonia, Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

(3) Estonia, Greece and Luxembourg, not available.

(4) Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

the most substantial contraction recorded for machine tool manufacturing. The year 2004 was marked by a recovery in terms of the EU-25's output of general purpose and special purpose machinery, where the index of production grew by 3.2 % and 2.0 % compared with 2003. However, the production index continued to fall for machine tool manufacturing (-1.7 %), albeit at a slower pace than in 2002 and 2003.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 45 900 per person employed in the EU-25's industrial

processing machinery sector, therefore slightly lower (EUR 800) than the machinery and equipment manufacturing average for 2002. Among the NACE groups that make up this sector, EU-25 apparent labour productivity was highest for the manufacture of other general purpose machinery (EUR 46 600 per person employed) and lowest for the manufacture of other special purpose machinery (EUR 45 000). Turning to average personnel costs per employee, these ranged between EUR 36 700 for the manufacture of other special purpose machinery to EUR 37 100 for the manufacture

of machine-tools, and were therefore within a relatively narrow range and also close to the EUR 36 600 average for machinery and equipment manufacturing.

Once adjusted for the share of employees in persons employed, EU-25 value added represented 122.8 % of personnel costs for the manufacture of other special purpose machinery in 2002, while the highest wage adjusted labour productivity ratio among the three subsectors was 126.3 % for the manufacture of other general purpose machinery. The wage adjusted labour productivity ratio for all three subsectors was slightly lower than that recorded for machinery and equipment manufacturing as a whole (127.7 %).

The gross operating rate, a measure of profitability that compares the gross operating surplus with turnover, was 7.1 % for the EU-25's manufacture of other special purpose machinery sector, 7.8 % for the manufacture of machine-tools and 8.5 % for the manufacture of other general purpose machinery, where only the latter of these three rates was above the average for machinery and equipment manufacturing (8.1 %).

EXTERNAL TRADE

EU-25 exports of industrial processing machinery (CPA Groups 29.2, 29.4 and 29.5) were valued at EUR 93.4 billion in 2004, while imports amounted to EUR 34.6 billion, generating a EUR 58.8 billion trade surplus. More than half of the EU-25's exports in 2004 were of other special purpose machinery (CPA Group 29.5), while other general purpose machinery (CPA Group 29.2) accounted for 39.1 % of the EU-25's imports.

More than one third of total EU exports (intra- and extra-EU trade combined) of industrial processing machinery were made by Germany in 2004, while 18.0 % came from Italy, the second largest exporter for these goods. Germany also accounted for the highest proportion of EU imports (intra- and extra-EU trade) of industrial processing machinery, with a 16.8 % share, while the next largest shares were recorded by France (12.8 %) and the United Kingdom (11.1 %).

Table 10.12 Production value of selected industrial processing machinery (CPA Groups 29.2, 29.4 and 29.5), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Lifting machinery (incl. feeding equipment for blast furnaces, forging manipulators)	29.22.18.70	2 451.1
Heat exchange units	29.23.11.30	3 202.5
Machines for working metals (horizontal and vertical machining centres, single station unit construction machines and multi-station transfer machines)	29.42.12.20, 29.42.12.40, 29.42.12.50 and 29.42.12.70	943.1
Self-propelled bulldozers... with a 360° revolving superstructure	29.52.26.00	2 802.2
Industrial machinery for the preparation of meat or poultry	29.53.16.50	1 315.9
Machinery for making pulp of fibrous cellulosic material and paper or paperboard	29.55.11.13 and 29.55.11.15	2 243.6
Industrial robots for multiple uses (excl. robots designed to perform a specific function (e.g. lifting, handling, loading or unloading))	29.56.25.75	1 525.4

Source: Eurostat, PRODCOM

Table 10.13 Manufacture of other general purpose machinery; machine-tools; other special purpose machinery (NACE Groups 29.2, 29.4 and 29.5) Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Austria (61.0)	Germany (47.3)	Malta (154.9)	Malta (15.1)
2	Sweden (57.7)	Sweden (44.0)	Ireland (148.0)	Portugal (12.6)
3	Germany (56.3)	Austria (43.6)	Austria (139.8)	Austria (11.2)

(1) Belgium, 2001; Estonia, Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Estonia, Greece, Cyprus, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 10.14 Other general purpose machinery; machine-tools; other special purpose machinery (CPA Groups 29.2, 29.4 and 29.5) External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Other general purpose machinery; machine-tools; other special purpose machinery	93 393	10.4	10.1	34 575	3.6	4.5	58 818	270.1
Other general purpose machinery	31 998	3.6	3.4	13 520	1.4	1.6	18 479	236.7
Machine-tools	12 651	1.4	1.4	8 138	0.9	1.2	4 513	155.5
Other special purpose machinery	48 744	5.4	5.4	12 918	1.4	1.8	35 827	377.3

Source: Eurostat, Comext

10.3: AGRICULTURAL AND FORESTRY MACHINERY

NACE Group 29.3 covers the manufacture of agricultural tractors and other agricultural and forestry machinery; note that this NACE group does not cover the manufacture of agricultural hand tools.

Improvements in agricultural machinery and tractors have come through greater performance and higher quality, combined with attention for environmental impact. The increasing trend for importing agricultural products from non-Community countries has contributed to a slowdown in domestic demand for agricultural machines and tractors. Demand is also influenced by the size of agricultural holdings and the incidence of sharing equipment. Moreover, the wide variety of machinery and tools for agricultural uses comes from the diversity of territories (quality of ground, geography and climates).

STRUCTURAL PROFILE

The EU-25 generated EUR 8.0 billion of value added through the manufacture of agricultural and forestry machinery (NACE Group 29.3) in 2002, which was equivalent to 4.9 % of machinery and equipment (NACE Division 29) value added and 0.5 % of total industry (NACE Sections C to E) value added. There were 204 500 persons employed in the EU-25's manufacture of agricultural and forestry machinery sector in 2002, which represented 5.8 % of the machinery and equipment workforce or 0.6 % of the industrial total.

The manufacture of other agricultural and forestry machinery (NACE Class 29.32) was the largest subsector, generating approximately three quarters of the EU's value added in 2002 among the 20 Member States for which data are available ⁽⁹⁾, while the remainder was accounted for by the manufacture of agricultural tractors (NACE Class 29.31).

Almost one quarter of EU-25 agricultural and forestry machinery manufacturing wealth creation was generated in Germany (24.1 %), while Italy was the second largest contributor (17.5 %) and France the third (15.2 %). Denmark was relatively more specialised in the manufacture of agricultural and forestry machinery compared with the other Member States ⁽¹⁰⁾, as this sector contributed 1.9 times as much to industrial value added as it did for the

⁽⁹⁾ Belgium, France and Ireland, 2001; Denmark, Greece, Latvia, Luxembourg and Malta, not available.

⁽¹⁰⁾ Belgium and Latvia, 2001; Greece, Ireland and Malta, not available.

Table 10.15

Manufacture of agricultural and forestry machinery (NACE Group 29.3) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (24.1)	Denmark (187.1)	Germany (17.2)	Denmark (207.8)
2	Italy (17.5)	Austria (177.2)	Italy (16.7)	Austria (189.8)
3	France (15.2)	Finland (165.1)	France (14.4)	Finland (170.6)

(1) Belgium, Ireland and Latvia, 2001; Greece and Malta, not available.

(2) Belgium and Latvia, 2001; Greece, Ireland and Malta, not available.

(3) Ireland, 2001; Greece and Malta, not available.

(4) Latvia, 2001; Greece, Ireland and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 10.16

Production value of selected agricultural and forestry machines (CPA Groups 29.3), EU-25, 2003 (EUR million)

	Prodcom code	
New agricultural and forestry tractors, wheeled, of an engine power >59kW but <=75kW (excl. pedestrian-controlled tractors)	29.31.23.30	2 222.0
New agricultural and forestry tractors, wheeled, of an engine power >90 kW (excl. pedestrian-controlled tractors)	29.31.23.70	1 988.9
Scarifiers and cultivators	29.32.15.00	495.8
Weeders and hoes	29.32.20.37	397.8
Rotovators	29.32.33.30	398.1
Mouldboard ploughs	29.32.34.10	934.2
Disc harrows	29.32.50.40	556.8
Harrows (excl. disc harrows)	29.32.61.00	438.5
Ploughs (excl. mouldboard ploughs)	29.32.65.50	844.2

Source: Eurostat, PRODCOM

EU-25 as a whole, while Austria and Finland were 1.8 and 1.7 times more specialised than the EU-25 average.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's agricultural and forestry machinery manufacturing sector was EUR 39 200 per person employed in 2002, which was EUR 7 500 less than the machinery and equipment average. Average personnel costs per employee at EUR 28 700 were also lower than the machinery and equipment average (EUR 36 600). Combining these two indicators results in an EU-25 wage adjusted labour productivity ratio of 136.5 % for 2002, which was 8.8 percentage points above the corresponding figure for machinery and equipment as a whole.

EXTERNAL TRADE

In 2004, the EU-25 exported EUR 4.9 billion of agricultural and forestry machinery (CPA Group 29.3), while it imported EUR 1.7 billion of these goods, leading to a EUR 3.2 billion trade surplus. Other agricultural and forestry machinery (CPA Class 29.32) represented 59.8 % of all exports, while accounting for 67.1 % of imports into the EU-25.

10.4: ARMS AND AMMUNITION

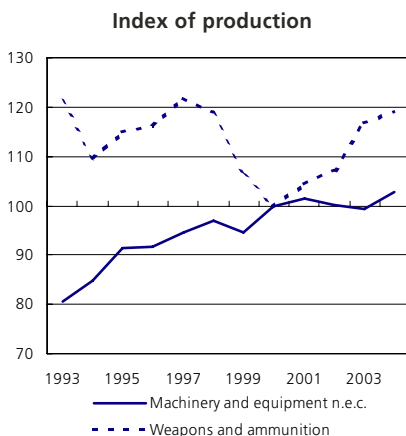
The activity of NACE Group 29.6 covers the manufacture of tanks and other fighting vehicles, artillery material and ballistic missiles, small arms and ammunition. This activity also includes the manufacture of hunting, sporting or protective firearms and ammunition, as well as explosive devices (such as bombs, mines and torpedoes). The manufacture of percussion caps, detonators or signalling flares (NACE Class 24.61), swords, bayonets, etc. (NACE Class 28.75) and armoured vehicles for the transport of banknotes or valuables (NACE Class 34.10) are not covered in this subchapter.

The availability of data on the weapons and ammunitions sector is sometimes weaker than for many of the other sectors covered in this publication, usually as a result of confidentiality. Moreover, when analysing the data, the risk of under-reporting arms sales should be borne in mind.

STRUCTURAL PROFILE

The manufacture of arms and ammunition (NACE Group 29.6) generated EUR 3.2 billion of value added in the EU-25, accounting for 1.9 % of machinery and equipment (NACE Division 29) value added in 2002 and 0.2 % of industrial (NACE Sections C to E) value added. The arms and ammunition sector employed 69 600 persons in the EU-25, equivalent to 2.0 % of the machinery and equipment workforce and 0.2 % of the industrial workforce.

Figure 10.5
Manufacture of weapons and ammunition (NACE Group 29.6)
Evolution of production, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 10.17
Manufacture of weapons and ammunition (NACE Group 29.6)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (22.8)	Sweden (291.9)	United Kingdom (20.3)	Sweden (225.8)
2	Germany (21.0)	United Kingdom (144.3)	Germany (15.9)	United Kingdom (183.6)
3	France (15.1)	Czech Republic (133.4)	France (11.6)	Czech Republic (169.0)

(1) Belgium, 2001; Denmark, Estonia, Greece, Latvia and Luxembourg, not available.
(2) Belgium, 2001; Denmark, Estonia, Greece, Ireland, Latvia and Luxembourg, not available.
(3) Denmark, Estonia, Greece, Luxembourg and the Netherlands, not available.
(4) Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg and the Netherlands, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Arms and ammunition manufacturing was the only one of the seven NACE groups that make up the machinery and equipment sector where Germany was not the largest contributor to value added. The United Kingdom accounted for 22.8 % of EU-25 value added in 2002, followed nonetheless by Germany (21.0 %) and France (15.1 %). However, Sweden stood out from the rest of the Member States ⁽¹⁾ as by far the most specialised manufacturer of arms and ammunition, as this sector accounted for 0.5 % of Swedish industrial value added.

Annual short-term statistics show that the index of production for arms and ammunition manufacturing in the EU-25 grew on average by 2.9 % per annum from 1994 to 1997. This period of growth was followed by three years of declining output, as the index of production fell, on average, by 8.3 % per annum. However, between 2000 and 2004 there was renewed vigour to the development of output, as average gains of 4.5 % per annum were recorded.

PRODUCTIVITY AND PROFITABILITY

The arms and ammunition sector posted an apparent labour productivity of EUR 46 000 per person employed in the EU-25 in 2002, close to the machinery and equipment manufacturing average (EUR 46 700). However, relatively high average personnel costs (EUR 41 600 per employee) led to a wage adjusted labour productivity ratio of 110.7 %, which was considerably lower than the average for machinery and equipment manufacturing (127.7 %).

⁽¹⁾ Belgium, 2001; Denmark, Estonia, Greece, Latvia and Luxembourg, not available.

EXTERNAL TRADE

EU-25 exports of weapons and ammunition (CPA Group 29.6) were valued at EUR 656 million in 2004, some EUR 353 million more than imports. Exports of these goods represented just 0.5 % of the total value of exports of machinery and equipment, while a similar share was recorded for imports. France and Italy were by far the largest exporters (intra- and extra-EU trade) of weapons and ammunition in 2004, respectively contributing 24.9 % and 21.2 % to the EU total. The United Kingdom was the largest importer of weapons and ammunition in 2004 (20.8 % of the EU total), followed by Finland (10.1 %).

10.5: DOMESTIC APPLIANCES

The activities of NACE Group 29.7 cover the manufacture of domestic electrical appliances (such as white goods and vacuum cleaners), heating appliances, and non-electric domestic cooking equipment.

Among the activities covered by the machinery and equipment manufacturing sector, the manufacture of domestic appliances n.e.c. (NACE Group 29.7) is the only one for which households are the main customers. Competition and regulation in the EU single market has led to product innovations as regards the aesthetics and ergonomics of domestic appliances as well as their environmental impact.

STRUCTURAL PROFILE

Manufacturers of domestic appliances (NACE Group 29.7) in the EU-25 generated EUR 12.8 billion of value added in 2002, equivalent to 7.8 % of the machinery and equipment (NACE Division 29) manufacturing total and 0.7 % of industrial (NACE Sections C to E) value added. There were 278 100 persons employed in domestic appliances manufacturing, which equated to 7.9 % of the machinery and equipment workforce, or 0.8 % of the industrial total.

Based on the information available for 17 of the Member States ⁽¹²⁾ in relation to the two NACE classes that make up the manufacture of domestic appliances, the manufacture of electric domestic appliances (NACE Class 29.71) accounted for 88.0 % of the value added created within the EU's domestic appliances sector, while the remaining share came from the manufacture of non-electric domestic appliances (NACE Class 29.72).

Germany accounted for 34.3 % of the EU-25's domestic appliances manufacturing value added in 2002, while Italy was the second largest contributor (21.6 %), followed by the United Kingdom (11.6 %). However, Slovenia was by far the most specialised Member State ⁽¹³⁾ in domestic appliances manufacturing in 2002, as value added generated in this sector contributed 5.5 times more to Slovenian industrial value added than the equivalent share for the EU-25 as a whole. Using the same measure, Belgium (2001), the Netherlands and Finland were the least specialised Member States for manufacturing domestic appliances.

⁽¹²⁾ Belgium, 2001; Sweden, 2000; Denmark, Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg and Malta, not available.

⁽¹³⁾ Belgium, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta, not available.

Table 10.18

Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (34.3)	Slovenia (549.4)	Germany (23.7)	Slovenia (495.7)
2	Italy (21.6)	Italy (168.7)	Italy (21.5)	Italy (155.9)
3	United Kingdom (11.6)	Germany (135.7)	United Kingdom (10.8)	Hungary (130.1)

(1) Belgium, Ireland and Malta, 2001; Denmark, Estonia, Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg and Malta, not available.

(3) Ireland and Malta, 2001; Denmark, Estonia, Greece, Luxembourg and the Netherlands, not available.

(4) Denmark, Estonia, Greece, Ireland, Latvia, Luxembourg, Malta and the Netherlands, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 10.19

Production value of selected domestic appliances (CPA Groups 29.7), EU-25, 2003 (EUR million)

	Prodcom code	
Combined refrigerators-freezers, with separate external doors	29.71.11.10	1 626.8
Household-type refrigerators (incl. compression-type, electrical absorption-type) (excl. built-in)	29.71.11.33	1 691.2
Household dishwashing machines	29.71.12.00	2 096.3
Fully-automatic washing machines of a dry linen capacity <=10kg (incl. machines which both wash and dry)	29.71.13.30	4 649.6
Drying machines of a dry linen capacity <=10kg	29.71.13.70	1 015.2
Domestic vacuum cleaners with a self-contained electric motor for a voltage >=110V	29.71.21.13	1 431.9
Domestic electric cookers with at least an oven and a hob (incl. combined gas-electric appliances)	29.71.28.10	1 260.3
Domestic electric hobs for building-in	29.71.28.33	1 200.8
Domestic electric ovens for building-in	29.71.28.70	1 332.0
Iron/steel gas domestic cooking appliances & plate warmers, with an oven (incl. those with subsidiary boilers for central heating, separate ovens for both gas & other fuels)	29.72.11.13	605.2
Non-electric instantaneous or storage water heaters	29.72.14.00	1 284.0

Source: Eurostat, PRODCOM

Table 10.20

Manufacture of domestic appliances n.e.c. (NACE Group 29.7)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (3)
1	Germany (66.5)	Germany (48.9)	Malta (213.2)	Ireland (19.5)
2	Austria (53.6)	Sweden (39.5)	Ireland (180.6)	Austria (13.2)
3	France (52.6)	Austria (35.5)	Portugal (192.2)	Netherlands (12.0)

(1) Belgium, Ireland and Malta, 2001; Denmark, Estonia, Greece, Latvia, Luxembourg and the Netherlands, not available.

(2) Belgium, Ireland and Malta, 2001; Denmark, Estonia, Greece, Cyprus, Latvia, Luxembourg and the Netherlands, not available.

(3) Belgium, Ireland and Malta, 2001; Denmark, Estonia, Greece, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Annual short-term statistics show that the EU-25's production index followed a generally upward trend from 1993 to 2004, with developments following fairly closely those for the manufacture of machinery and equipment as a whole. After a 2.0 % fall in output in 1993 (compared to the previous year), the index of production grew on average by 2.2 % per annum from 1994 to 1998, before contracting by 2.1 % in 1999. From 2000 to 2002, the production index increased modestly, on average by 0.9 % per annum, while it contracted by a further 2.3 % in 2003, recovering these losses in 2004, as EU-25 output increased by 2.4 %.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in 2002 was EUR 46 100 per person employed in the EU-25's domestic appliances manufacturing sector, very close to the machinery and equipment manufacturing average of EUR 46 700. Given that average personnel costs per employee of EUR 32 200 within the domestic appliances sector were EUR 4 400 below the machinery and equipment manufacturing average, the wage adjusted labour productivity ratio for domestic appliances manufacturing was, at 142.9 %, well above the average for machinery and equipment manufacturing (127.7 %).

EXTERNAL TRADE

In 2004, the external trade of domestic appliances (CPA Group 29.6) generated a EUR 659 million trade surplus in the EU-25 as exports to non-Community countries were valued at EUR 7.6 billion and imports at EUR 7.0 billion. EU-25 exports of domestic appliances accounted for 5.5 % of all machinery and equipment exports, while imports of domestic appliances represented an 11.4 % share of machinery and equipment imports. Electric domestic appliances (CPA Class 29.71) accounted for 88.2 % of the EU-25's exports of domestic appliances in 2004 and 91.5 % of the EU-25's imports. Italy registered by far the highest external trade surplus (intra- and extra-EU trade) for domestic appliances in 2004 (EUR 4.6 billion), while Germany had the next largest surplus (EUR 2.4 billion).

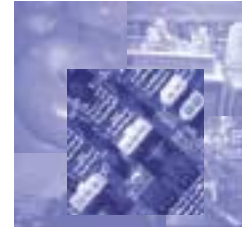
Table 10.21
Manufacture of machinery and equipment n.e.c. (NACE Division 29)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	502.0	9.0	5.7	9.5	168.2	0.1	: 23.9	58.2	1.7	98.5	0.1	0.1	0.2	0.6	3.3	0.0	
Production (EUR billion) (2)	473.8	8.1	5.3	9.0	156.7	0.1	: 22.7	50.8	1.7	96.4	0.1	0.1	0.2	0.5	2.8	0.0	
Value added at factor cost (EUR billion) (3)	164.7	2.8	1.7	3.5	61.3	0.0	: 8.0	16.2	0.6	28.6	0.0	0.0	0.1	0.2	0.8	0.0	
Gross operating surplus (EUR billion) (3)	40.8	0.9	0.5	0.8	11.2	0.0	: 2.5	3.3	0.2	10.8	0.0	0.0	0.0	0.0	0.3	0.0	
Purchases of goods and services (EUR billion)	:	6.3	4.1	6.0	105.1	0.1	: 16.5	41.6	1.1	70.9	0.1	0.1	0.1	0.5	2.5	0.0	
Gross investment in tangible goods (EUR million)	:	214	346	390	4 815	8	: 810	1 239	42	3 831	4	9	17	:	260	1	
Number of persons employed (thousands)	3 527	41	152	67	1 064	5	: 194	326	13	593	1	7	12	3	73	0	
Personnel costs (EUR million) (3)	123 913	1 929	1 219	2 765	50 033	32	: 5 421	12 850	416	17 797	20	25	53	118	568	5	
App. labour productivity (EUR thous./pers. emp.) (3)	46.7	62.4	11.3	52.7	57.5	8.8	: 41.1	49.7	49.6	48.2	22.7	6.8	5.5	63.5	11.5	17.5	
Average personnel costs (EUR thous./employee) (3)	36.6	44.8	8.4	41.8	47.5	6.1	: 29.4	40.0	32.9	33.6	:	3.5	4.6	46.4	8.6	12.7	
Wage adjusted labour productivity (%) (3)	127.7	139.1	134.7	126.0	121.2	142.6	: 139.6	124.1	150.8	143.6	:	192.4	120.4	137.0	132.6	137.8	
Gross operating rate (%) (3)	8.1	9.0	9.0	8.0	6.7	10.1	: 10.6	5.7	12.5	11.0	10.0	23.6	5.5	7.1	7.9	13.1	
Investment per person employed (EUR thousand)	:	5.3	2.3	5.8	4.5	1.4	: 4.2	3.8	3.3	6.5	3.1	1.2	1.5	:	3.6	3.3	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	16.5	12.9	6.7	2.8	1.8	1.3	10.6	19.2	50.0	0.7	:	1.5	:	:	:	5.1	19.6
Production (EUR billion)	15.4	12.1	6.1	2.6	1.7	1.3	10.2	17.2	46.5	0.7	:	1.5	:	:	:	4.9	19.9
Value added at factor cost (EUR billion)	4.9	4.8	2.4	1.0	0.4	0.4	3.1	6.0	17.7	0.2	:	0.6	:	:	:	1.7	7.6
Gross operating surplus (EUR billion)	1.2	1.4	-0.2	0.3	0.1	0.1	0.9	1.6	4.9	0.0	:	0.1	:	:	:	0.4	1.4
Purchases of goods and services (EUR billion)	11.5	8.3	4.4	1.8	1.2	1.0	7.7	13.4	31.8	0.6	:	1.2	:	:	:	3.5	12.3
Gross investment in tangible goods (EUR million)	415	461	292	179	89	154	280	513	1 467	64	:	202	:	:	:	139	:
Number of persons employed (thousands)	91	80	192	45	25	42	59	103	328	72	:	164	:	:	:	22	105
Personnel costs (EUR million)	3 639	3 336	2 596	691	350	244	2 321	4 464	12 802	170	:	470	:	:	:	1 245	6 161
App. labour productivity (EUR thous./pers. emp.)	53.2	60.0	12.6	22.9	17.3	8.6	52.5	58.5	54.1	2.8	:	3.5	:	:	:	75.0	72.0
Average personnel costs (EUR thous./employee)	41.4	42.5	14.8	15.8	14.4	5.8	40.2	44.2	39.8	2.4	:	2.9	:	:	:	55.9	:
Wage adjusted labour productivity (%)	128.3	141.0	84.9	144.9	119.7	148.4	130.6	132.3	135.9	116.8	:	121.3	:	:	:	134.1	:
Gross operating rate (%)	7.4	11.2	-2.7	12.1	4.9	9.0	8.9	8.2	9.9	4.7	:	6.9	:	:	:	8.6	7.2
Investment per person employed (EUR thousand)	4.5	5.8	1.5	4.0	3.5	3.7	4.8	5.0	4.5	0.9	:	1.2	:	:	:	6.2	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Electrical machinery and optical equipment



The manufacture of electrical machinery and optical equipment groups together several different activities that produce a range of goods from intermediate goods (such as electronic components) to capital goods (such as transmission equipment) and consumer goods (televisions, telephones, cameras or watches). There are often strong interconnections between the various activities. The demand for electrical machinery and optical equipment depends on a wide range of factors. For capital goods, demand is strongly linked to general economic performance of the whole economy, with manufacturers facing considerable fluctuations in times of recession and expansion. Producers of intermediate goods, such as electronic components, face considerable competition from Asia, as a high proportion of the world's consumer electronics are made in this region and subsequently local suppliers are often sourced for these components (it is generally recognised that one of the structural weaknesses of the European industrial economy is its weak competitive presence within electronic components markets). As well as facing competition from Asian manufacturers, European manufacturers of electronic consumer goods also face high levels of market saturation, as household equipment rates for some items, such as radios, televisions, or mobile hand-sets are often close to or above 100 %. As a consequence, enterprises in this area tend to be involved in continuous product innovation in order to stimulate demand for new products: this often involves the development of new technological standards (for example, LCD and plasma flat screen televisions, digital photography and video, or the move from VHS to DVD).

This chapter covers NACE Subsection DL and is referred to as the manufacture of electrical machinery and optical equipment. There are four NACE divisions included, which cover the manufacture of computers and office machinery (NACE Division 30); the manufacture of electrical machinery and equipment (NACE Division 31); the manufacture of radio, television and communication equipment (NACE Division 32); and instrument engineering (NACE Division 33), which includes the manufacture of medical, precision and optical equipment.

NACE

- 30: manufacture of office machinery and computers;
- 31: manufacture of electrical machinery and apparatus n.e.c.;
- 31.1: manufacture of electric motors, generators and transformers;
- 31.2: manufacture of electricity distribution and control apparatus;
- 31.3: manufacture of insulated wire and cable;
- 31.4: manufacture of accumulators, primary cells and primary batteries;
- 31.5: manufacture of lighting equipment and electric lamps;
- 31.6: manufacture of electrical equipment n.e.c.;
- 32: manufacture of radio, television and communication equipment and apparatus;
- 32.1: manufacture of electronic valves and tubes and other electronic components;
- 32.2: manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy;
- 32.3: manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods;
- 33: manufacture of medical, precision and optical instruments, watches and clocks;
- 33.1: manufacture of medical and surgical equipment and orthopaedic appliances;
- 33.2: manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment;
- 33.3: manufacture of industrial process control equipment;
- 33.4: manufacture of optical instruments, photographic equipment;
- 33.5: manufacture of watches and clocks.

With respect to the legislative framework impacting on this sector, the low voltage Directive (73/23/EEC) regulates the free movement of electrical equipment designed for use between 50 and 1 000 volts for alternating current and between 75 and 1 500 volts for direct current, while ensuring a high level of protection to the public and property. Since July 2005, a public consultation has been launched by the Directorate-General for Enterprise to gather information on any impact of the various identified policy options in the potential amendment of the low voltage Directive. After analysing the consultation findings, the European Commission will seek to improve the initial proposal, develop an alternative approach or confirm the solutions adopted.

The electromagnetic compatibility (EMC) Directive governs electromagnetic emissions of equipment in order to ensure that, in their intended use, such equipment does not disturb radio or telecommunications or other equipment. Furthermore, the directive governs the immunity of such equipment from interference, so as to ensure that equipment is not disturbed by radio emissions that are normally found in the atmosphere. A revised EMC Directive 2004/108/EC was published in 2004, repealing Directive 89/336/EEC.

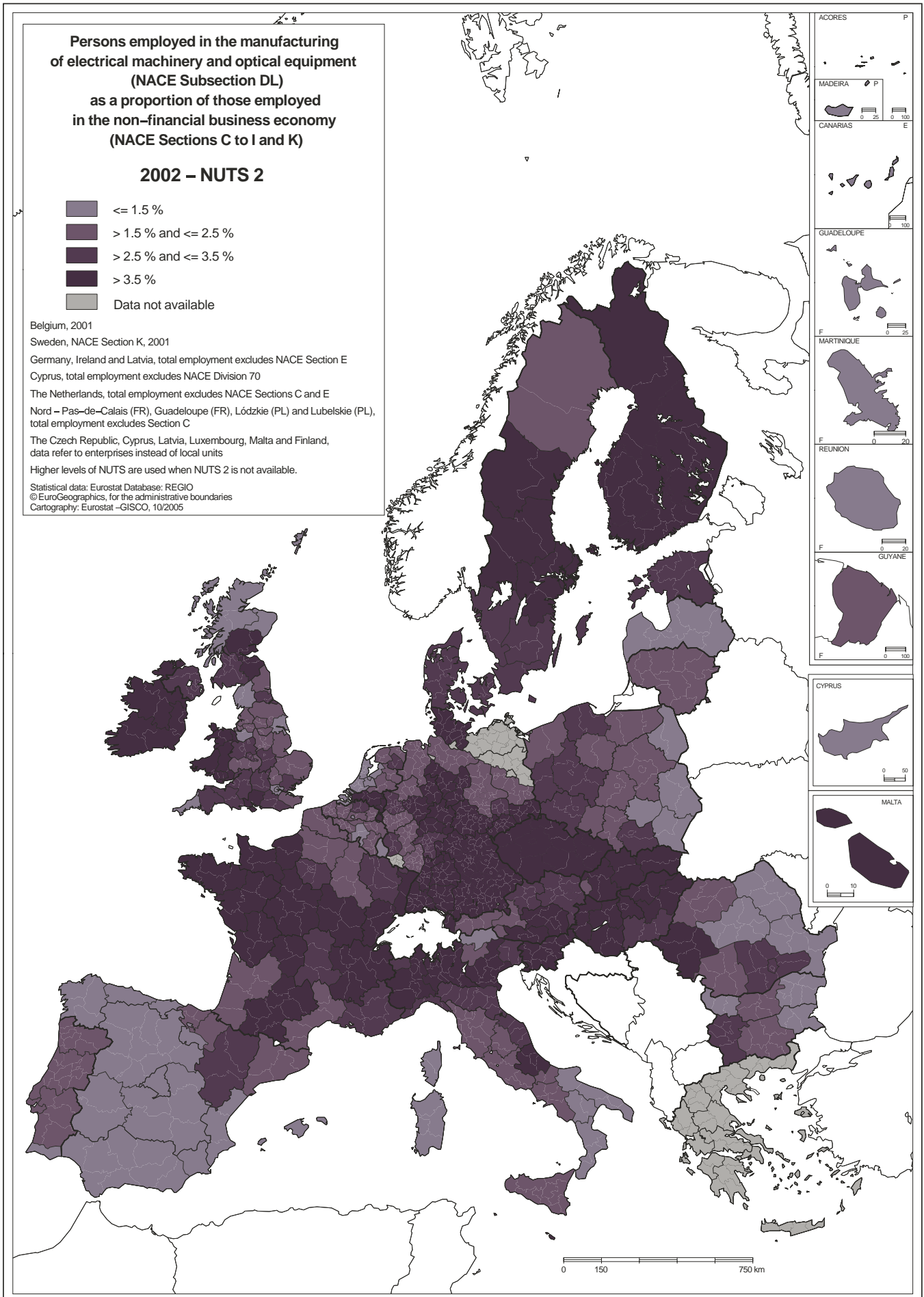


Table 11.1
Manufacture of electrical and optical equipment (NACE Subsection DL)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Electrical and optical equipment	177 740	10.1	3 779	10.5
Instrument engineering (1)	48 735	2.8	1 002	2.8
Computer and office equipment	13 402	0.8	203	0.6
Electrical machinery and apparatus n.e.c.	70 671	4.0	1 685	4.7
Radio, TV & communication equipment (1)	46 163	2.6	949	2.6

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

Value added in the EU-25's electrical machinery and optical equipment manufacturing sector (NACE Subsection DL) was EUR 177.7 billion in 2002, or 10.1 % of the industrial (NACE Sections C to E) total. There were 3.8 million persons employed in the EU-25's electrical machinery and optical equipment manufacturing sector, which accounted for 10.5 % of the industrial workforce. In relation to other NACE subsections, electrical machinery and optical equipment manufacturing was the second largest activity within the EU-25's industrial economy in 2002, behind the manufacture of basic metals and fabricated metal products (NACE Subsection DJ, see Chapter 9). Note however, that no data are available for the manufacture of food products, beverages and tobacco (NACE Subsection DA, see Chapter 4) and that in 2001 this activity was also larger, in value added terms, than electrical machinery and optical equipment manufacturing.

Looking in more detail, the largest activity among the four NACE divisions that make-up the electrical machinery and apparatus manufacturing sector was the manufacture of electrical machinery and apparatus (NACE Division 31), which accounted for 39.8 % of EU-25 sectoral value added in 2002. The second largest subsector was the manufacture of instrument engineering (NACE Division 33), with a 26.8 % share of sectoral value added in 2001, closely followed by the manufacture of radio, television and telecommunication equipment and apparatus (NACE Division 32) which generated 25.4 % of the EU-25's value added, also in 2001. The manufacture of office machinery and computers (NACE Division 30) was the smallest activity, as it contributed 7.5 % to sectoral value added in 2002.

In 2002, Germany generated the largest share of the EU-25's value added within the electrical machinery and optical equipment manufacturing sector, contributing 31.4 % of the total, a share that was more than twice as high as in France (15.0 %), the second largest contributor. Wealth creation in the United Kingdom accounted for 14.2 % of the EU-25's value added in 2002, while Italy (10.8 %) was the only other Member State with a double-digit share. Compared with the EU-25 average, value added in the electrical machinery and optical equipment manufacturing sector contributed a relatively high proportion of national industrial value added in Malta (27.9 %), Finland (23.7 %), and, to a lesser extent, Hungary (15.6 %). These three Member States were the most highly specialised in the manufacture of electrical machinery and optical equipment ⁽¹⁾, while the least specialised Member States included Luxembourg (3.6 %), Latvia (2.4 %, 2001) and Cyprus (1.4 %). In Hungary, Malta and Finland, the electrical machinery and optical equipment manufacturing sector was the largest sector of the industrial economy (at the level of NACE subsections) in terms of value added, while in the Czech Republic, Ireland and Slovenia it was the second largest activity.

⁽¹⁾ Belgium and Latvia, 2001; Greece, not available.

Table 11.2
Manufacture of electrical and optical equipment (NACE Subsection DL)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (31.4)	Malta (276.7)	Germany (27.2)	Hungary (149.4)
2	France (15.0)	Finland (234.7)	France (13.3)	Malta (148.7)
3	United Kingdom (14.2)	Hungary (154.4)	Italy (11.9)	Finland (146.1)

(1) Belgium and Latvia, 2001; Greece, not available.

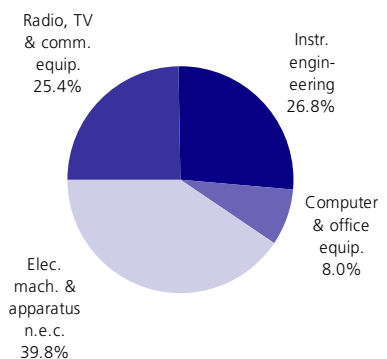
(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

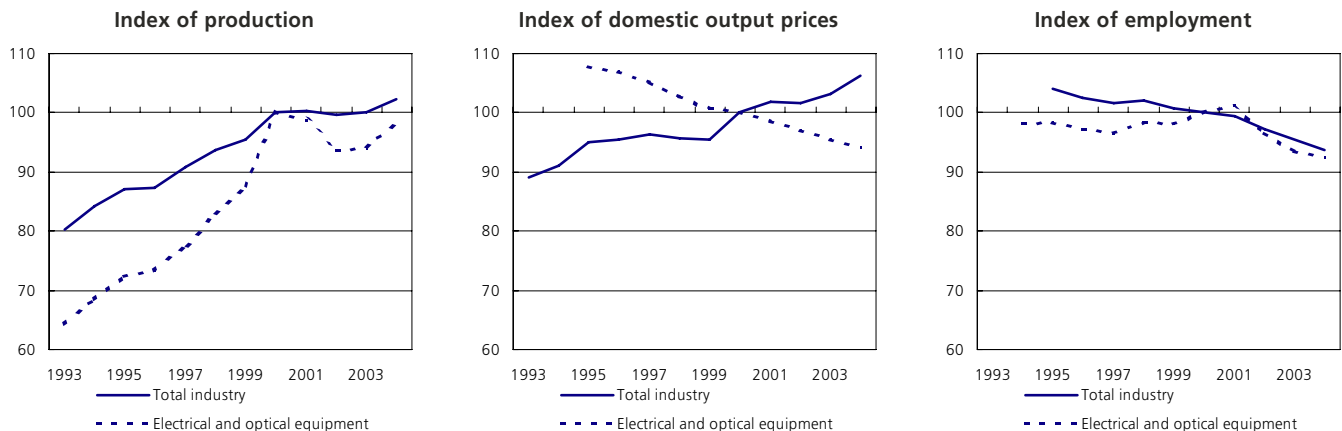
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 11.1
Manufacture of electrical and optical equipment (NACE Subsection DL)
Breakdown of sectoral value added, EU-25, 2001 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 11.2
Manufacture of electrical and optical equipment (NACE Subsection DL)
Evolution of main indicators, EU-25 (2000=100)



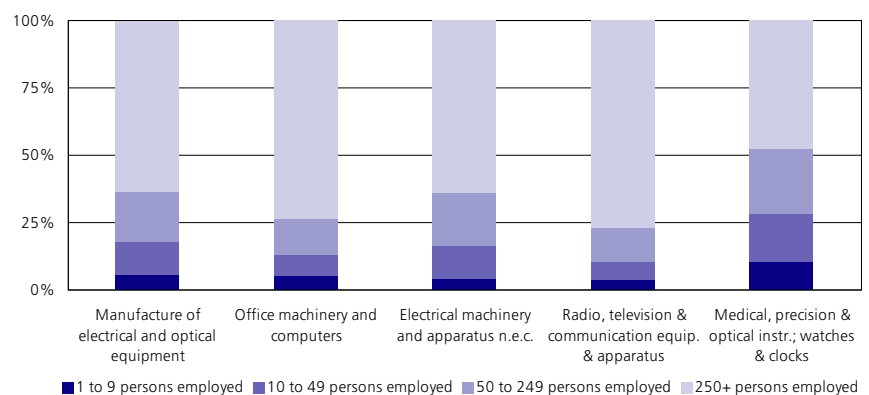
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Annual short-term statistics show that the index of production for the manufacture of electrical machinery and optical equipment in the EU-25 increased at a faster pace than the index for total industry (NACE Sections C to E) between the years 1993 and 2000. Output grew on average by 6.5 % per annum for the manufacture of electrical machinery and optical equipment during this period, which was slightly more than double the industrial average (3.2 % per annum). Nonetheless, in 2001 there was an abrupt change to the fortunes of this activity, as the index of production for the manufacture of electrical machinery and optical equipment contracted by 1.3 %, a trend which was confirmed and reinforced in 2002, as output fell by 5.2 %. Output stabilised in 2003, increasing by 0.2 %, with a more substantial increase in 2004, as the index of production rose by 4.7 %, the first time since 2000 that growth for the manufacture of electrical machinery and optical employment was above the industrial average (2.2 %).

The output price index for electrical machinery and optical equipment manufacturing fell every year between 1996 (the beginning of the time series) and 2004 in the EU-25, with prices falling on average by 1.5 % per annum. Over the same period, none of the other industrial NACE subsections recorded falling prices, while industrial prices rose on average by 1.2 % per annum.

The EU-25's electrical machinery and optical equipment manufacturing sector had a relatively high reliance on large enterprises (with 250 or more persons employed), as these accounted for 63.7 % of the sector's value added in 2001. The contribution of large

Figure 11.3
Manufacture of electrical and optical equipment (NACE Subsection DL)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

enterprises in this sector was 6.5 percentage points above the share of large enterprises within the whole of the industrial economy. In contrast, all of the remaining enterprise size classes recorded a smaller proportion of total value added within the activity of electrical machinery and optical equipment than their shares of industrial value added. The relatively high contribution of large enterprises was repeated across all but one of the NACE divisions that make-up the electrical machinery and optical equipment manufacturing sector, with the exception being instrument engineering (NACE Division 33) where small and medium-sized enterprises (with less than 250 persons employed) accounted for the

majority of sectoral value added (52.6 %). Across the four NACE divisions, the highest contribution to sectoral value added from micro (10.7 %), small (17.9 %) and medium-sized enterprises (24.0 %) was systematically made within the instrument engineering sector, while the highest contribution from large enterprises (77.0 % of sectoral value added) was recorded for radio, television and communication equipment and apparatus manufacturing (NACE Division 32).

Table 11.3
Manufacture of electrical and optical equipment (NACE Subsection DL)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (industry=100)	Proportion of those employed (%)	Index (industry=100)	< 25 years (1)	25-49 years (2)	50+ years (3)
EU-25	65.8	92.7	92.9	100.3	10.3	70.2	19.5
BE	71.4	93.5	87.3	97.5	6.6	80.7	12.7
CZ	50.4	79.4	98.3	101.0	13.0	67.2	19.7
DK	63.0	89.7	88.1	96.7	9.9	71.4	18.7
DE	67.5	93.3	90.0	100.9	10.2	67.6	22.2
EE	41.8	76.1	100.0	102.3	:	65.7	:
EL	82.7	112.8	100.0	101.8	11.1	88.0	15.2
ES	70.7	93.7	98.0	100.9	13.1	70.6	16.3
FR	67.3	94.1	95.2	101.1	6.6	70.6	22.8
IE	59.3	85.4	95.2	101.8	12.6	77.5	9.8
IT	67.6	95.1	92.5	98.5	9.7	77.8	12.6
CY	78.9	119.7	100.0	105.5	:	71.8	:
LV	:	:	100.0	105.0	:	58.3	:
LT	45.0	81.9	97.5	101.1	:	63.8	:
LU	:	:	90.7	97.2	:	81.1	:
HU	49.2	80.5	98.2	101.4	14.0	68.1	17.9
MT	57.5	73.5	96.9	100.1	43.7	50.9	:
NL	82.5	105.9	81.2	109.7	5.9	75.1	19.3
AT	63.1	85.9	88.2	98.9	17.9	63.8	18.3
PL	57.5	85.1	94.7	99.2	10.5	73.4	16.1
PT	47.6	80.7	99.0	101.5	17.4	70.3	:
SI	53.5	84.3	93.6	97.7	11.3	72.9	15.8
SK	43.5	70.2	99.6	101.0	22.7	66.4	10.9
FI	69.2	96.0	96.4	102.6	8.3	77.4	14.3
SE	71.3	95.5	91.9	100.6	3.7	66.4	30.0
UK	74.2	99.2	92.2	101.5	10.1	66.5	23.4

(1) The Netherlands, 2003; Greece and Portugal, 2002.

(2) Latvia, 2003.

(3) Greece, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

According to Labour Force Survey data for 2004, the structure of the electrical machinery and optical equipment manufacturing sector's workforce was very similar to the industrial average in terms of full-time employment and age composition. Full-time employment rates for electrical machinery and optical equipment manufacturing stood at 92.9 % in the EU-25, which was almost the same figure as the industrial average (92.7 %). Some 10.3 % of those employed within the electrical machinery and optical equipment manufacturing sector were aged between 15 and 24, while the vast majority (70.2 %) of the workforce were aged between 25 and 49 years old, leaving 19.5 % of the workforce aged 50 or more. These proportions were similar to those recorded for the whole of the industrial economy, with a somewhat higher propensity to employ persons

aged between 25 and 49 within the electrical machinery and optical equipment manufacturing sector (1.8 percentage points above the industrial average), and relatively fewer persons aged 50 or more (2.1 percentage points below the industrial average). There was a relatively wide divergence from the industrial average in terms of the propensity to employ men within the electrical machinery and optical equipment manufacturing sector, as men accounted for 65.8 % of the total workforce compared with an industrial average of 71.0 %.

PRODUCTIVITY AND PROFITABILITY

EU-25 apparent labour productivity was EUR 47 000 per person employed for the manufacture of electrical machinery and optical equipment in 2002, some EUR 2 100 below the average for total industry. Average personnel

costs for the manufacture of electrical machinery and optical equipment were EUR 37 900 per employee in 2002, with personnel costs above the industrial average in the majority of the Member States ⁽²⁾ for which data are available.

The EU-25 wage adjusted labour productivity ratio (which can be calculated as apparent labour productivity divided by personnel costs per employee) for the electrical machinery and optical equipment manufacturing sector was 124.2 %. Among the Member States with available data ⁽³⁾, Poland and Sweden recorded wage adjusted labour productivity ratios below 100 %, meaning that value added did not

⁽²⁾ Latvia, 2001; Greece, Ireland and Cyprus, not available.

⁽³⁾ Belgium and Latvia, 2001; Greece and Cyprus, not available.

Table 11.4
Manufacture of electrical and optical equipment (NACE Subsection DL)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (110.6)	Sweden (52.5)	Ireland (304.1)	Latvia (23.3)
2	Finland (110.6)	Belgium (48.7)	Malta (275.1)	Finland (15.9)
3	Belgium (65.3)	Germany (47.5)	Finland (257.8)	Ireland (14.8)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

cover personnel costs (after adjusting for the share of employees to persons employed). The two most specialised Member States, namely Malta and Finland, as well as Slovenia, were the only three Member States where the wage adjusted labour productivity ratio for the manufacture of electrical machinery and optical equipment exceeded the national industrial average.

The EU-25's gross operating rate for the manufacture of electrical machinery and optical equipment showed the gross operating surplus representing 6.5 % of turnover in 2002, which was 3.5 percentage points below the industrial average. Among those with available data, Finland, Slovenia and Lithuania were the only Member States ⁽⁴⁾ where the gross operating rate for electrical machinery and optical equipment manufacturing was above the national industrial average.

⁽⁴⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

EXTERNAL TRADE

The EU-25's exports of electrical and optical equipment (CPA Subsection DL) were valued at EUR 170.2 billion in 2004 (18.9 % of all industrial exports), while imports amounted to EUR 221.5 billion (23.4 % of all industrial imports), resulting in a trade deficit of EUR 51.3 billion.

At a more detailed level, the EU-25 recorded a trade surplus for electrical machinery and equipment (CPA Division 31) and for medical, precision and optical instruments, watches and clocks (CPA Division 33), equivalent to EUR 5.4 billion and EUR 9.9 billion respectively, while the deficit for radio, television and communication equipment and apparatus (CPA Division 32) was EUR 27.0 billion, rising to a deficit of EUR 39.6 billion for computer and office equipment (CPA Division 30). Between 1999 and 2004 the only one of the four CPA

divisions to increase its relative share of electrical and optical equipment exports was medical, precision and optical instruments, watches and clocks, whose share of EU-25 exports rose from 23.0 % to 27.9 %. The highest level of exports was recorded for radio, television and communication equipment and apparatus, some EUR 56.7 billion in 2004, or 33.3 % of the total.

The main shift in the structure of EU-25 imports between 1999 and 2004 concerned radio, television and communication equipment and apparatus, whose share of the electrical and optical equipment imports in value terms rose from 32.5 % to 37.8 % (the highest among the four CPA divisions), while there was a 5 percentage point reduction in the relative contribution of computer and office equipment imports, such that these represented 29.2 % of electrical and optical equipment imports in 2004.

Among the Member States, the largest external trade surplus of electrical and optical equipment was recorded by Germany (EUR 17.2 billion, intra- and extra-EU combined) in 2004, while the largest deficit for these goods was posted by the United Kingdom (EUR 20.6 billion).

Table 11.5
Electrical and optical equipment (CPA Subsection DL)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	EU industrial exports, 2004 (%)	EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	EU industrial imports, 2004 (%)	EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Electrical and optical equipment	170 171	18.9	19.2	221 490	23.4	25.5	-51 318	76.8
Office machinery & computers	24 950	2.8	3.4	64 594	6.8	8.7	-39 645	38.6
Electrical machinery & apparatus n.e.c.	41 035	4.6	4.7	35 637	3.8	4.0	5 398	115.1
Radio, TV & communication equip. & apparatus	56 676	6.3	6.7	83 643	8.8	8.3	-26 967	67.8
Medical, precision & optical instr.; watches & clocks	47 510	5.3	4.4	37 616	4.0	4.5	9 895	126.3

Source: Eurostat, Comext

11.1: INSTRUMENT ENGINEERING

The manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33) includes activities related to the manufacture of instruments, industrial process control equipment, watches, clocks and photographic equipment (while photo-chemical products, flashbulbs or television cameras are not included). Together these activities are referred to here as instrument engineering.

According to the latest EUCOMED⁽⁵⁾ data for 2003, the EU-25 accounted for about 27 % (EUR 184.0 billion) of the world's medical technology market (devices for the disabled, implantable devices, anaesthetic/respiratory devices, dental equipment, hospital equipment (hardware), ophthalmic and optical devices, and surgical instruments), which was the second largest market behind the United States (43 %).

⁽⁵⁾ EUCOMED (European Medical Technology Industry Association), more information at: <http://www.eucomed.be>.

On 31 March 2004, the Council and the European Parliament adopted Directive 2004/22/EC on measuring instruments, which covers 10 categories of measuring instruments, and abolishes previous legislation. This directive aims to leave more room for technological innovation and more choice for manufacturers in conformity assessment procedures, aligning Community legislation to international standards.

STRUCTURAL PROFILE

Instrument engineering (NACE Division 33) generated EUR 48.7 billion of value added in the EU-25 in 2001, which was equal to 26.8 % of the electrical machinery and optical equipment manufacturing (NACE Subsection DL) total or 2.8 % of industrial (NACE Sections C to E) value added. There were 1.0 million persons employed in the EU-25's instrument engineering manufacturing sector in 2001, accounting for a slightly lower share of the electrical and optical equipment manufacturing workforce (25.8 %) or 2.8 % of industrial employment.

A full set of data is not available across all five NACE groups which make up instrument engineering for 2002. However, the manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment (NACE Group 33.2) generated EUR 19.9 billion of value added in 2002, while the manufacture of medical and surgical equipment and orthopaedic appliances (NACE Group 33.1) generated EUR 17.2 billion of value added in 2001. These two activities dominated the EU-25's instrument engineering sector, together accounting for around three quarters of sectoral value added. In terms of employment, the manufacture of medical and surgical equipment and orthopaedic appliances of medical instruments was the largest employer in 2001, with 401 200 persons, compared with 362 800 for the manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment in 2002. The smallest activity (in terms of value added or employment) was the

Table 11.6

**Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Structural profile, EU-25, 2002**

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Medical, precision and optical instr.; watches & clocks (1)	48 735	2.8	1 002	2.8
Medical & surgical equip. & orthopaedic appliances (1)	17 180	1.0	401	1.1
Instr. & appl. for measuring, checking, testing, navigating & other purposes	19 915	1.1	363	1.0
Industrial process control equipment	4 112	0.2	94	0.3
Optical instruments and photographic equipment (2)	6 306	0.4	123	0.3
Watches and clocks	631	0.0	15	0.0

(1) 2001.

(2) Value added and share of industrial value added, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.7

**Manufacture of medical, precision and optical instruments, watches and clocks
(NACE Division 33)
Structural profile: ranking of the top 3 Member States, 2001**

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (32.7)	Denmark (142.7)	Germany (31.6)	Luxembourg (166.2)
2	United Kingdom (17.7)	Germany (126.7)	United Kingdom (14.4)	Germany (144.2)
3	France (16.0)	France (122.0)	France (14.2)	United Kingdom (127.7)

(1) Greece, the Netherlands and Poland, not available.

(2) Greece, Ireland, Malta, the Netherlands and Poland, not available.

(3) Greece, the Netherlands, Poland and Slovenia, not available.

(4) Greece, Ireland, Malta, the Netherlands, Poland and Slovenia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.8

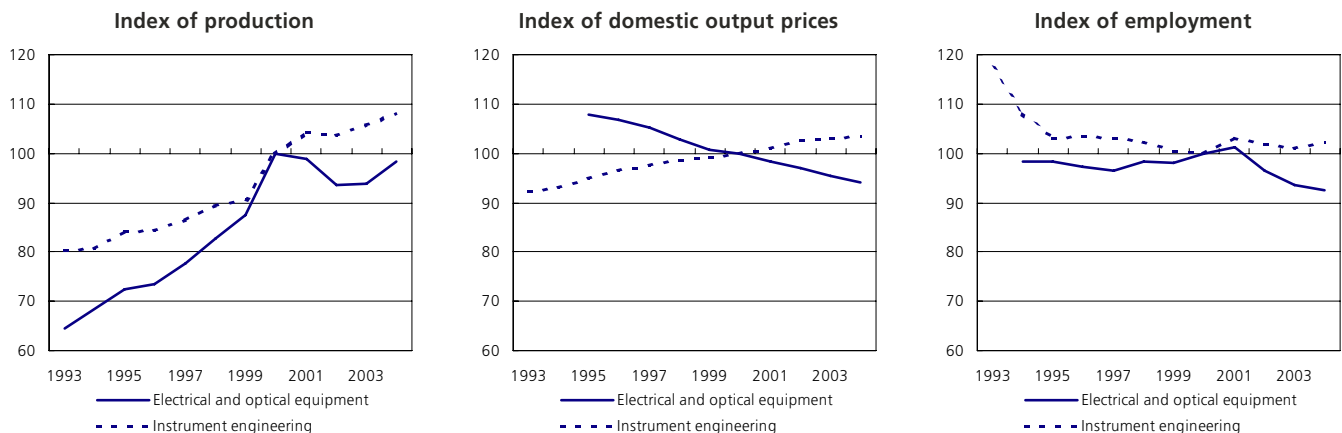
Production value of selected products of medical, precision and optical instruments, watches and clocks (CPA Division 33), EU-25, 2003 (EUR million)

	Prodcod code(s)	
Apparatus based on the use of X-rays (incl. radiography and radiotherapy apparatus)	33.10.11.15 and 33.10.11.19	3 565.7
Pacemakers for stimulating heart muscles (excl. parts and accessories)	33.10.18.50	1 703.2
Instruments and apparatus, for telecommunications	33.20.44.00	839.4
Non-electronic measuring machines & instruments excl. for measuring/checking geometrical quantities, balancing mechanical parts, test benches, optical instruments/appliances	33.20.65.89	1 180.0
Instruments and apparatus, regulating or controlling, n.e.c.	33.20.70.90	2 718.0
Unmounted single focal and spectacle lenses	33.40.11.53, 33.40.11.55, 33.40.11.59 and 33.40.11.70	2 240.6
Spectacles, goggles and the like, corrective, protective or other (excl. sunglasses)	33.40.12.90	901.4
Mechanical display battery/accumulator powered wrist-watches, incorporating or not stop-watch facility excl. with case of precious metal/metal clad with precious metal	33.50.12.13	128.7

Source: Eurostat, PRODCOM

Figure 11.4

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

manufacture of watches and clocks (NACE Group 33.5), which created EUR 631 million of value added and employed 14 700 persons in the EU-25 in 2002, equivalent to between 1 and 2 % of the instrument engineering total.

A high proportion of instrument engineering activity was concentrated in Germany, some 32.7 % of the EU-25's value added in 2001, while the United Kingdom (17.7 %), France (16.0%) and Italy (10.1 %) were the next largest Member States ⁽⁶⁾. In terms of value added specialisation relative to total industry, Denmark, Germany and France were the most specialised Member States, all generating at least 3.4 % of their industrial value added in the instrument engineering sector.

⁽⁶⁾ Greece, the Netherlands and Slovenia, not available.

Annual short-term statistics show that the production index for instrument engineering followed a fairly typical evolution for an industrial activity from 1993 to 2004. Its average growth (3.3 % per annum) between 1993 and 2001 was slower than for the whole of electrical machinery and optical equipment (5.5 % per annum), but higher than the industrial average (2.8 % per annum). However, the production fell slightly in 2002, by 0.7 % in the manufacture of instrument engineering (close to a 0.6 % decrease for total industry). In 2003 and 2004, the output of the instrument engineering sector continued to follow a largely positive development, albeit at rates that were considerably lower than those recorded at the end of the 1990s. This evolution could be contrasted with the overall performance of the index of production for electrical machinery and optical equipment,

which suffered a marked reduction in output in 2001 and 2002, such that despite a recovery in the two subsequent years, output in 2004 remained below its level for 2000.

Domestic output prices for instrument engineering rose on average by 1.0 % per annum over the period 1993 to 2004, with a gradual progression that was unmarked by major changes. This was in stark contrast to the output price index developments for the whole of electrical machinery and optical equipment manufacturing, which fell during successive years from 1995 to 2004.

Small and medium-sized enterprises (with less than 250 persons employed) played a particularly significant role within this activity, as they generated 52.6 % of sectoral value added, compared with an average of 36.3 % for all electrical machinery and optical equipment manufacturing (NACE Subsection DL).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity within the EU-25's instrument engineering sector was EUR 48 600 per person employed in 2001, while average personnel costs were EUR 34 900 per employee. As such, apparent labour productivity was almost EUR 2 000 per person employed above the electrical machinery and optical equipment manufacturing average of EUR 46 700, while average personnel costs were EUR 1 400 per employee below the electrical machinery and optical equipment manufacturing average. Combining these two ratios led to a wage adjusted labour productivity ratio of 139.5 % for instrument engineering in 2001, which was 10.9 percentage points above the electrical machinery and optical equipment

Table 11.9

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (113.2)	Sweden (49.4)	Ireland (328.0)	Latvia (49.0)
2	Denmark (65.3)	France (45.0)	Latvia (303.7)	Ireland (31.0)
3	Finland (63.3)	Denmark (44.7)	Malta (201.0)	Malta (24.8)

(1) Belgium, Cyprus and Latvia, 2001; Greece and the Netherlands, not available.

(2) Belgium and Latvia, 2001; Greece, Cyprus and the Netherlands, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

manufacturing average, although 6.6 percentage points below the manufacturing (NACE Section D) average.

EXTERNAL TRADE

EU-25 exports to non-Community countries of medical, precision and optical instruments, watches and clocks (CPA Division 33) were valued at EUR 47.5 billion in 2004, which was almost EUR 10 billion higher than the value of imports (EUR 37.6 billion). These figures

represented approximately 27.9 % of electrical and optical equipment (CPA Subsection DL) exports and 17.0 % of electrical and optical equipment imports. The largest trade surplus (intra- and extra-EU trade) among the Member States was recorded in Germany, at EUR 13.5 billion in 2004, followed, at some distance, by the Netherlands (EUR 3.9 billion); Italy reported the largest trade deficit for these goods (EUR 1.3 billion).

Table 11.10

Medical, precision and optical instruments; watches and clocks (CPA Division 33) External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Medical, precision & optical instr.; watches & clocks	47 510	5.3	4.4	37 616	4.0	4.5	9 895	126.3
Medical & surgical equip. & orthopaedic appliances	19 118	2.1	1.5	14 524	1.5	1.4	4 594	131.6
Instruments & appliances for measuring, checking, testing, navigating & other purposes	19 306	2.1	2.0	13 802	1.5	1.8	5 504	139.9
Industrial process control equipment	:	:	:	:	:	:	:	:
Optical instr. & photographic equip.	7 452	0.8	0.7	5 319	0.6	0.8	2 133	140.1
Watches & clocks	1 619	0.2	0.2	3 963	0.4	0.6	-2 345	40.8

Source: Eurostat, Comext

11.2: COMPUTERS AND OFFICE EQUIPMENT

This subchapter covers the manufacture of office machinery, computers and peripherals, such as printers and terminals (NACE Division 30). Note that the manufacture of electronic games is classified under toys and is covered within Subchapter 13.2.

The computer and office equipment manufacturing sector is characterised by a highly competitive environment, with a high degree of competition from Asia. The product specification of computers has grown logarithmically, as a result of technological gains in processing power and storage capabilities, with the price of computers often being cut dramatically towards the end of their product cycle in response to the introduction of higher specification machines. Demand for computers and related equipment is divided between business and household markets, the former largely being a replacement market driven by the need to have machines that are powerful enough to run the latest software. Within the household market, sales have been stimulated in recent years by relatively cheap Internet access and it is likely that the division between the home computer and other forms of home entertainment equipment will become more blurred, as the Internet, video images, and music are increasingly integrated into multi-functional equipment.

STRUCTURAL PROFILE

In 2002, the EU-25's computer and office equipment manufacturing sector (NACE Division 30) generated EUR 13.4 billion of value added, which was equal to 7.5 % of the electrical machinery and optical equipment manufacturing (NACE Subsection DL) total, or 0.8 % of industrial (NACE Sections C to E) value added; as such, it was the smallest activity (at the NACE division level) within electrical machinery and optical equipment manufacturing. There were 203 300 persons employed in the EU-25's computer and office equipment manufacturing sector in 2002, which was equivalent to 5.4 % of the electrical machinery and optical equipment manufacturing workforce or 0.6 % of industrial employment.

Table 11.11
Manufacture of office machinery and computers (NACE Division 30)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (29.9)	United Kingdom (189.3)	United Kingdom (21.7)	Hungary (269.8)
2	Germany (25.6)	France (147.7)	Germany (20.7)	United Kingdom (196.8)
3	France (20.0)	Hungary (121.3)	France (16.4)	The Netherlands (144.5)

(1) Belgium, 2001; Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Greece, Ireland, Latvia and Luxembourg, not available.

(3) The Netherlands, 2001; Greece and Luxembourg, not available.

(4) The Netherlands, 2001; Greece, Ireland, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.12
Production value of selected products of office machinery and computers (CPA Division 30), EU-25, 2003 (EUR million)

	Prodcom code	
Calculating machines	30.01.13.20	34.3
Cash registers	30.01.13.50	187.3
Postage-franking machines, ticket-issuing machines and similar machines incorporating a calculating device	30.01.13.70	272.7
Electrostatic photocopiers	30.01.21.70	479.7
Addressing machines and address plate embossing machines, mailing machines	30.01.23.50	324.0
Coin-sorting, counting or wrapping machines, automatic banknote dispensers, banknote counting and paying-out machines (excl. coin-counting machines operating by weight)	30.01.23.70	72.5
Desk-top PCs	30.02.13.00	2 067.7
Digital data processing machines: presented in the form of systems	30.02.14.00	9 420.7
Input or output units whether or not containing storage units in the same housing (incl. mice) (excl. printers and keyboards)	30.02.16.70	2 582.1
Hard and floppy disk drives	30.02.17.57	730.2

Source: Eurostat, PRODCOM

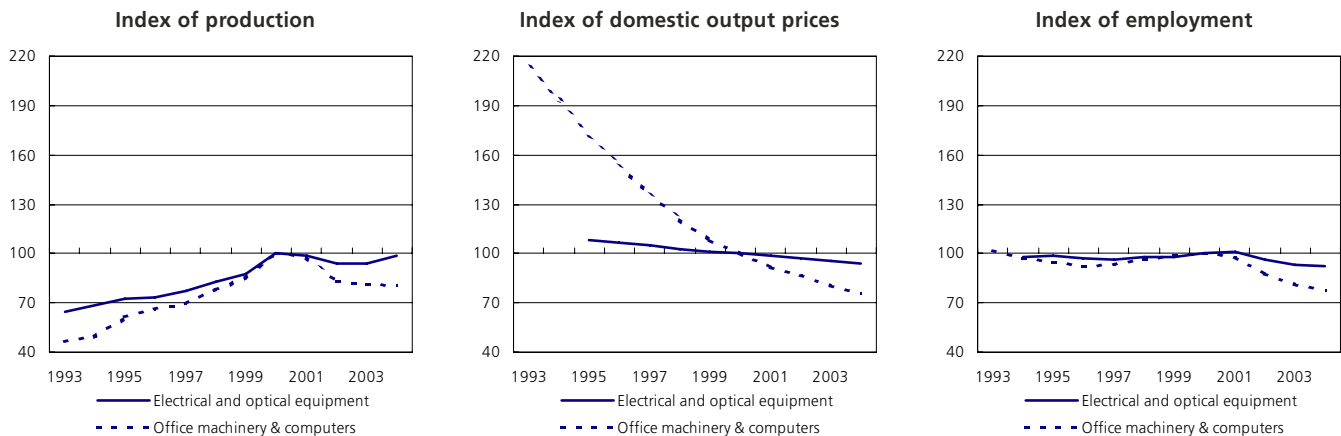
The manufacture of computers and office equipment was highly concentrated as the four largest Member States accounted for 86.2 % of EU-25 value added in 2002: the United Kingdom contributed 29.9 % of the total, followed by Germany (25.6 %), France (20.0 %) and Ireland (10.7 %), while no other Member State ⁽⁷⁾ contributed more than 4 %.

⁽⁷⁾ Belgium, 2001; Greece, Latvia and Luxembourg, not available.

Compared with the EU-25 average, the United Kingdom was also the most specialised Member State in the computer and office equipment manufacturing sector in 2002, as this activity accounted for 1.4 % of industrial value added, almost twice as high as the EU-25 average. The next highest value added specialisation ratios ⁽⁸⁾ were recorded for France, where computer and office equipment

⁽⁸⁾ Belgium, 2001; Greece, Ireland, Latvia and Luxembourg, not available.

Figure 11.5
Manufacture of office machinery and computers (NACE Division 30)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 11.13
Sales of selected IT hardware markets, EU sum (EUR million) (1)

	2002	2003	2004
Copiers	5 353	5 299	5 281
LAN hardware	8 776	8 338	8 494
PCs	41 456	40 149	40 851
Server systems	21 674	18 641	18 906
Workstations	720	499	385

(1) Excluding Cyprus and Malta.
 Source: EITO, 2005

Table 11.14
Unit shipments of selected IT hardware, EU sum (thousands) (1)

	2002	2003	2004
Copiers	1 553	1 525	1 518
LAN cards	19 154	25 561	37 422
PCs	29 346	31 730	35 145
PC printers	25 573	28 101	32 991
Server systems	1 370	1 598	1 830
Workstations	72	50	39

(1) Excluding Cyprus and Malta.
 Source: EITO, 2005

manufacturing generated 1.1 % of industrial value added, and Hungary where the share was 0.9 %. While no information is available as to the contribution of computer and office equipment manufacturing to Irish industrial value added, computer and office equipment manufacturing was responsible for 4.0 % of Irish manufacturing (NACE Section D) value added, compared with 1.8 % in the United Kingdom or an EU-25 average of 0.9 %. This relatively high share for Ireland is at least in part explained by Ireland acting as an entrance point into the EU-25 for some large international manufacturers.

Annual short-term statistics show that the index of production for the EU-25's computer and office equipment manufacturing sector rose at a fast pace over the years 1993 to 2000, as output grew on average by 11.7 % per annum, considerably above the 6.5 % average for electrical machinery and optical equipment manufacturing. Indeed, during the period considered the index of production for computer and office equipment manufacturing grew at a faster pace than for any other NACE manufacturing division (9). However, mirroring the contraction in many technology related activities, the production index for the manufacture of computer and office equipment fell during consecutive years from 2001 to 2004, with a particularly pronounced reduction in the level of production in 2002, down 15.8 %, after which output fell at a much slower pace in 2003 (-1.2 %) and 2004 (-0.9 %).

(9) Recycling (NACE Division 37), not available.

Price comparisons over time in this area are particularly difficult given the constant improvements that are being made to computer specifications. Nevertheless, EU-25 domestic output prices for the manufacture of computers and office equipment fell each year from 1993 to 2004, with an average reduction of 9.0 % per annum.

Table 11.13 shows the value of the EU-25 market for a range of IT products, according to EITO (10). There was a reduction in the value of sales for each of these products between 2002 and 2004, which ranged from 1.3 % for copiers to 46.5 % for workstations. However, if the effect of falling prices is removed, Table 11.14 shows that unit shipments of most products generally rose, with only the number of copiers and workstations decreasing between 2002 and 2004.

(10) EITO (the European Information Technology Observatory), more information at: <http://www.eito.org>.

Table 11.15

Manufacture of office machinery and computers (NACE Division 30)**Labour productivity, personnel costs and gross operating rate:****ranking of the top 3 Member States, 2002**

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (3)
1	Ireland (101.5)	France (72.7)	Ireland (253.4)	Denmark (13.0)
2	United Kingdom (90.5)	Germany (59.9)	Austria (233.1)	Lithuania (11.8)
3	Germany (81.5)	United Kingdom (48.7)	Lithuania (188.6)	United Kingdom (10.3)

(1) Belgium and the Netherlands, 2001; Greece, Cyprus, Latvia and Luxembourg, not available.

(2) Belgium, Malta and the Netherlands, 2001; Greece, Cyprus, Latvia and Luxembourg, not available.

(3) Belgium, 2001; Greece, Cyprus, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 65 900 per person employed in the EU-25's manufacture of computer and office equipment sector, and average personnel costs per employee were EUR 46 900 in 2002. Both of these figures were above those recorded for the other three NACE divisions ⁽¹¹⁾ that make-up the electrical machinery and optical equipment manufacturing sector. When adjusted for the share of employees in persons employed, value added in the computer and office equipment manufacturing sector covered 140.6 % of personnel costs, again the highest value among the NACE divisions covered within this chapter.

⁽¹¹⁾ Manufacture of radio, television, and communication equipment and apparatus (NACE Division 32) and the manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33), 2001.

The gross operating rate is one measure of operating profitability, and in the EU-25's computer and office equipment manufacturing sector this was 5.5 % in 2002. As such, the gross operating surplus represented a lower proportion of turnover than that recorded for the electrical machinery and optical equipment manufacturing sector as a whole (6.5 %).

EXTERNAL TRADE

The EU-25's external trade balance for office machinery and computers (CPA Division 30) was in deficit by EUR 39.6 billion in 2004, as a result of EUR 64.6 billion of imports and EUR 24.9 billion of exports with non-Community countries. Among the Member States, the Netherlands (EUR 26.0 billion) was the largest exporter (intra- and extra-EU trade combined) and the second largest importer (EUR 27.7 billion), behind Germany (EUR 27.8 billion). In contrast to the majority of the Member States, Ireland, Hungary, the Czech Republic, Luxembourg and Slovakia all recorded trade surpluses for office machinery and computers in 2004, while the largest trade deficit was in the United Kingdom.

Table 11.16

Office machinery and computers (CPA Division 30)**External trade, EU-25, 2004**

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Office machinery & computers	24 950	2.8	3.4	64 594	6.8	8.7	-39 645	38.6
Office machinery & parts thereof	2 654	0.3	0.3	4 624	0.5	0.6	-1 971	57.4
Computers & other info. processing equip.	22 296	2.5	3.0	59 970	6.3	8.1	-37 674	37.2

Source: Eurostat, Comext

11.3: MANUFACTURE OF ELECTRICAL MACHINERY AND EQUIPMENT

This subchapter covers NACE Division 31 which includes the manufacture of electric motors, generators, transformers, electricity distribution equipment, insulated wires and cables, optical fibres for coded data transmission, batteries, lighting equipment, and other electrical equipment. The manufacture of metal cables, which are not used as a conductor of electricity, is not included.

This sector draws together the manufacturing of products that are generally classified as intermediate or capital goods, usually supplied to other industrial activities. Demand is largely driven by investment activities of other enterprises (and the public sector), while a small share of production is destined for households, for example, the after-sales market for car batteries or household lighting equipment.

STRUCTURAL PROFILE

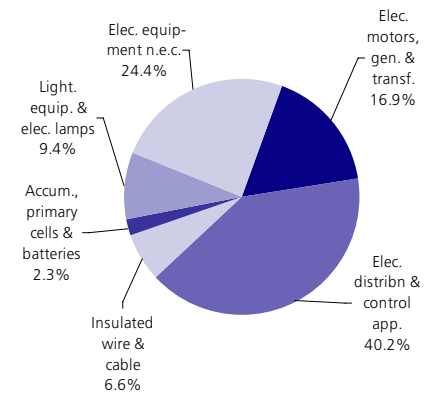
In 2002, the EU-25's manufacture of electrical machinery and equipment (NACE Division 31) generated EUR 70.7 billion of value added, therefore contributing 39.8 % of the added value within the electrical machinery and optical equipment (NACE Subsection DL) manufacturing sector, or 4.0 % of industrial (NACE Sections C to E) value added – hence, this activity was the largest among the four NACE divisions covered within this chapter. There were 1.7 million persons employed in the electrical machinery and equipment manufacturing sector in 2002, which represented 44.6 % of the electrical machinery and optical equipment workforce, or 4.7 % of the industrial total.

At a more detailed level, the largest subsector, in terms of its contribution to EU-25 value added, was the manufacture of electricity distribution and control apparatus (NACE Group 31.2) which contributed 40.2 % of the electrical machinery and equipment manufacturing sector's value added, while the miscellaneous category of electrical equipment for engines and vehicles n.e.c. (NACE Group 31.6) generated 24.4 %. The manufacture of electric motors, generators and transformers (NACE Group 31.1) recorded value added of EUR 12.0 billion in 2002, representing a 16.9 % share of the electrical machinery and equipment manufacturing total. The remaining three NACE groups had a combined value added of EUR 13.0 billion or 18.4 % of the sectoral total.

Germany was by far the leading producer of electrical machinery and equipment within the EU-25 in 2002, accounting for 39.6 % of the wealth created. Italy was the second largest contributor, with 12.1 % of the EU-25's value added, closely followed by France (11.7 %) and the United Kingdom (10.7 %). The manufacture of electrical machinery and equipment was the largest NACE division within the electrical machinery and optical equipment manufacturing sector in all of the Member States with available data, with the exception of Ireland, Lithuania, Luxembourg, Finland and the United Kingdom ⁽¹²⁾.

⁽¹²⁾ Belgium and Latvia, 2001; Greece, not available.

Figure 11.6
Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.17
Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Electrical machinery & apparatus n.e.c.	70 671	4.0	1 685	4.7
Electric motors, generators and transformers	11 978	0.7	302	0.8
Electricity distribution and control apparatus	28 429	1.6	576	1.6
Manufacture of insulated wire and cable	4 689	0.3	133	0.4
Accumulators, primary cells and primary batteries	1 649	0.1	39	0.1
Lighting equipment and electric lamps	6 658	0.4	170	0.5
Electrical equipment n.e.c.	17 248	1.0	466	1.3

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.18
Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (39.6)	Hungary (200.0)	Germany (30.8)	Hungary (164.3)
2	Italy (12.1)	Germany (156.9)	Italy (12.3)	Slovakia (159.7)
3	France (11.7)	Czech Republic (143.0)	France (10.1)	Czech Republic (157.3)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The domestic output price index for electrical machinery and equipment manufacturing rose on average by 1.6 % per annum between 1993 and 1996, a pattern which was reversed between 1997 and 1999 as prices fell at a moderate pace for three consecutive years (average rate of -0.2 % per annum). From 2000 through to 2004, EU-25 domestic output prices for electrical machinery and equipment manufacturing rose gradually (on average by 0.6 % per annum). The evolution of prices for electrical machinery and equipment manufacturing was in contrast to that observed for the whole of electrical machinery and optical equipment manufacturing, where prices fell on a year-on-year basis throughout the period 1993 to 2004.

Table 11.19
Production value of selected products of office machinery and computers
(CPA Division 30), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Generating sets incl. turbo-generators, generating sets for welding equipt. without heads/appliances excl. with compression, internal & spark-ignition combustion piston engines	31.10.32.50	3 947.2
DC motors and generators of an output >37.5W but <=750W (excl. starter motors for internal combustion engines)	31.10.10.30	1 732.8
Inverters	31.10.50.53 and 31.10.50.55	2 385.7
Plugs and sockets for a voltage <=1kV (excl. for coaxial cables, for printed circuits)	31.20.27.50	3 455.3
Boards, panels, consoles, desks, cabinets and other bases for apparatus for electric control or the distribution of electricity (excl. those equipped with their apparatus)	31.20.40.30	2 848.2
Lead-acid accumulators for starting piston engines, working with liquid electrolyte	31.40.21.10 and 31.40.21.50	1 434.2
Chandeliers and other electric ceiling or wall lighting fittings (excl. those used for lighting public open spaces or thoroughfares)	31.50.25.30	5 259.1
Electrical machines and apparatus, having individual functions, n.e.c.	31.62.13.90	1 780.5
Electrical burglar or fire alarms and similar apparatus	31.62.11.53, 31.62.11.55 and 31.62.11.57	2 379.4

Source: Eurostat, PRODCOM

The index of production for the manufacture of electrical machinery and equipment in the EU-25 generally followed the upward trend observed for electrical machinery and optical equipment manufacturing during the years 1993 to 2000, with the exception of 1996, when the output of electrical machinery and equipment manufacturing contracted by 0.3 %. The index of production grew, on average, by 3.7 % per annum for the manufacture of electrical machinery and equipment between 1993 and 2001 in the EU-25, which was 1.8 percentage points lower than the average for electrical machinery and optical equipment. In 2002, production

contracted by 4.2 % (1.0 percentage point less than the average for electrical machinery and optical equipment manufacturing) and the losses continued into 2003 when output fell by a further 1.1 % whereas a modest 0.2 % increase was recorded for electrical machinery and optical equipment manufacturing. There were signs of a recovery in 2004, as the output of electrical machinery and equipment manufacturing rose in the EU-25 by 3.4 %, although this was 1.3 percentage points less than the electrical machinery and optical equipment manufacturing average.

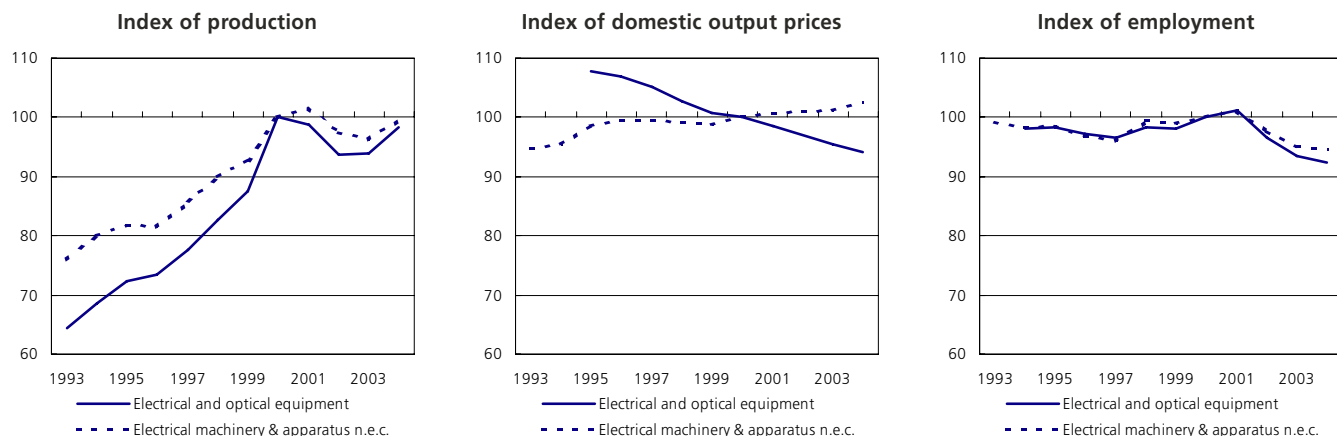
PRODUCTIVITY AND PROFITABILITY

EU-25 apparent labour productivity (EUR 41 900 per person employed) and average personnel costs (EUR 34 900 per employee) for the manufacture of electrical machinery and equipment were both below their average levels for the whole of the electrical machinery and optical equipment manufacturing sector. The wage adjusted labour productivity ratio was 120.3 % for the EU-25's electrical machinery and equipment manufacturing sector in 2002, which was 3.9 percentage points lower than the average for electrical machinery and optical equipment manufacturing. The relatively low level of wage adjusted labour productivity was reproduced across most of the NACE groups that compose this sector, with EU-25 wage adjusted labour productivity particularly low for the manufacture of electricity distribution and control apparatus (NACE Group 31.2) at 112.5 %, while the highest ratio was recorded for the manufacture of lighting equipment and electric lamps (NACE Group 31.5) at 141.9 %, which was just above the manufacturing (NACE Section D) average of 140.3 %.

The gross operating rate (calculated as the gross operating surplus in relation to turnover) stood at 6.2 % for the EU-25's electrical machinery and equipment manufacturing sector in 2002, very close to the average rate for the whole of electrical machinery and optical equipment manufacturing (6.5 %).

Figure 11.7

Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

EXTERNAL TRADE

The EU-25's trade surplus with non-Community countries for electrical machinery and apparatus (CPA Division 31) was EUR 5.4 billion in 2004, with exports of these goods valued at EUR 41.0 billion. Electricity distribution and control apparatus (CPA Group 31.2) accounted for more than one third (34.7 %) of electrical machinery and equipment exports from the EU-25 in 2004, while electrical equipment n.e.c. (CPA Group 31.6) had the largest share (36.7 %) of EU-25 imports of electrical machinery and equipment. Germany was by far the largest trader of electrical machinery and equipment, as it exported (intra- and extra-EU trade combined) some 30.1 % of the total for the EU Member States in 2004, while importing 23.2 % of the total for the EU Member States.

Table 11.20

Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (72.2)	Germany (49.4)	Ireland (229.9)	Malta (22.8)
2	Belgium (62.2)	Belgium (45.9)	Latvia (204.0)	Latvia (17.0)
3	Austria (59.4)	Sweden (43.0)	Malta (203.0)	Ireland (16.4)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.21

Electrical machinery and apparatus n.e.c. (CPA Division 31)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Electrical machinery & apparatus n.e.c.	41 035	4.6	4.7	35 637	3.8	4.0	5 398	115.1
Electric motors, generators & transformers	11 483	1.3	1.3	7 546	0.8	1.0	3 937	152.2
Electricity distribution & control apparatus	14 255	1.6	1.5	7 210	0.8	0.9	7 046	197.7
Insulated wire & cable	3 168	0.4	0.4	2 917	0.3	0.3	251	108.6
Accumulators, primary cells & primary batteries	1 148	0.1	0.2	1 361	0.1	0.3	-214	84.3
Lighting equipment & electric lamps	2 985	0.3	0.4	3 524	0.4	0.3	-539	84.7
Electrical equipment n.e.c.	7 996	0.9	0.9	13 079	1.4	1.2	-5 083	61.1

Source: Eurostat, Comext

11.4: MANUFACTURE OF RADIO, TELEVISION AND COMMUNICATION EQUIPMENT

This subchapter covers the manufacture of radio, television and communication equipment, as covered by NACE Division 32. Electronic components, including active, passive and printed circuit boards (PCBs), are all included within NACE Group 32.1; the manufacture of television cameras, transmission apparatus for radio and television, telephonic switching apparatus (including LANs and modems), telephones and fax machines are found under NACE Group 32.2 (note that Chapter 23 deals with information, communication and media content that makes use of this equipment); while NACE Group 32.3 covers the manufacture of audio-visual equipment and related appliances such as loudspeakers, headphones and aerials, as well as other electronic consumer appliances, such as telephone answering machines.

Electronic components represent a vital input used in a variety of other downstream industrial sectors, in particular the manufacture of computers, motor vehicles, telecommunications, consumer electronics, as well as defence-related industries. There have been significant technological developments in this area as capacity/power increases and the size of components becomes smaller. Within telecommunications there has been an increase in the speed of transmission and the way in which information is encoded and transmitted, such that digital transmission and switching techniques coupled with the use of fibre optics, satellite and wireless distribution means that an increasing variety of technical applications are available for receiving and distributing information. However, it is in the consumer electronics market that these technological advances are most evident, both at work and in the home, in the form of new or improved

devices such as smaller and more powerful mobile phone hand-sets, DVD recorders and plasma screens. Japan and China dominate in terms of global manufacturing of consumer electronics, while both the EU-25 and the United States are net importers of these goods.

STRUCTURAL PROFILE

The EU-25's manufacture of radio, television and communication equipment (NACE Division 32) generated EUR 46.2 billion of value added in 2001, which was slightly more than one quarter (25.4 %) of the electrical machinery and optical equipment (NACE Subsection DL) manufacturing sector or 2.6 % of industrial (NACE Sections C to E) value added. There were 949 200 persons employed in the EU-25's radio, television and communication equipment manufacturing sector in 2001, some 24.4 % of the electrical machinery and optical equipment manufacturing workforce, or 2.6 % of those employed within industry as a whole.

The manufacture of telecommunications equipment (NACE Group 32.2) was the largest of the three NACE groups that make-up the radio, television and communication equipment manufacturing sector, with EUR 20.4 billion of value added in the EU-25 in 2002. The next largest subsector, in terms of value added, was the manufacture of electronic components (NACE Group 32.1) where EUR 17.8 billion of added value was generated in 2001, corresponding to 38.5 % of the radio, television and communication equipment manufacturing total. The manufacture of television and radio equipment (NACE Group 32.3) accounted for an estimated EUR 8 billion of value added in 2001, while employing 194 900 persons in 2002, which equated to approximately one fifth of the radio, television and communication equipment manufacturing workforce.

The largest contributors to the EU-25's value added for the manufacture of radio, television and communication equipment were France and Germany, with 17.6 % and 17.4 % respectively of the EU-25 total in 2001. Two other Member States recorded double-digit shares, with Finland generating 14.5 % of the EU-25's value added for radio, television and communication equipment manufacturing and the United Kingdom 10.6 % ⁽¹³⁾.

Finland was the most specialised Member State for the manufacture of radio, television and communication equipment, as this sector accounted for 20.0 % of industrial wealth created in Finland in 2001 (compared with a 2.6 % average for the EU-25), while Malta was also highly specialised, as the radio, television and communication equipment manufacturing sector generated 22.0 % of Maltese manufacturing (NACE Section D) value added in 2001 (compared with a 3.0 % average for the EU-25). In contrast, the least specialised Member States (relative to industrial value added) included Sweden, Cyprus, Spain and Slovakia. The Swedish position was unusual as negative value added was recorded in 2001, followed by a small positive value added in 2002, contrasted with the situation in 2000 when this sector accounted for 5.6 % of Swedish industrial value added, with Sweden being one of the most specialised Member States in this activity in value added terms. An analysis of employment data shows that in 2002 this sector still employed 5.2 % of the industrial workforce in Sweden.

⁽¹³⁾ Greece, Latvia, Luxembourg, the Netherlands and Poland, not available.

Table 11.22

Manufacture of radio, television and communication equipment and apparatus (NACE Division 32) Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Radio, TV & communication equip. & apparatus (1)	46 163	2.6	949	2.6
Electronic valves & tubes & other electronic components (2)	17 777	1.0	324	0.9
TV & radio transmitters & apparatus for line telephony/telegraphy	20 387	1.2	368	1.0
TV & radio receivers, sound or video recording or reproducing apparatus & associated goods	:	:	195	0.5

(1) 2001.

(2) Value added and share of industrial value added, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.23
Manufacture of radio, television and communication equipment and apparatus (NACE Division 32)
Structural profile: ranking of the top 3 Member States, 2001

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	France (17.6)	Finland (765.7)	France (17.6)	Finland (321.3)
2	Germany (17.4)	Austria (217.8)	Germany (16.8)	Sweden (242.8)
3	Finland (14.5)	Hungary (214.6)	United Kingdom (12.3)	Hungary (174.8)

(1) Greece, Latvia, Luxembourg, the Netherlands and Poland, not available.
 (2) Greece, Ireland, Latvia, Luxembourg, Malta, the Netherlands and Poland, not available.
 (3) Greece, Latvia, Luxembourg, the Netherlands, Poland and Slovenia, not available.
 (4) Greece, Ireland, Latvia, Luxembourg, Malta, the Netherlands, Poland and Slovenia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.24
Production value of selected products of electronic valves, tubes and other components (CPA Division 32), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Digital MOS integrated circuits (ICs): wafers and chips	32.10.62.15 and 32.10.32.17	4 844.7
Bare printed circuit boards	32.10.30.50 and 32.10.30.70	3 775.7
Colour TV tubes	32.10.41.35	2 511.6
Linear (analogue) integrated circuits (ICs)	32.10.62.95	2 826.7
Telephonic or telegraphic switching apparatus (excl. relays and switching equipment such as selectors for automatic telephone exchangers)	32.20.20.40	7 249.8
Radio receivers for motor vehicles	32.30.12.70 and 32.01.29.0	2 682.6
Colour television projection equipment and videoprojectors	32.30.20.20	1 353.2
Colour television receivers with integral tube (excl. television projection equipment, apparatus with a video recorder or player, video monitors)	32.30.20.50	4 638.9
Video recorders or player/recorders (incl. laser or digital video disc players/recorders) (excl. those combined with a television, for magnetic tape)	32.30.33.70	685.2
Loudspeakers (incl. speaker drive units, frames or cabinets mainly designed for mounting loudspeakers) (excl. those mounted in their enclosures)	32.30.42.39	866.8

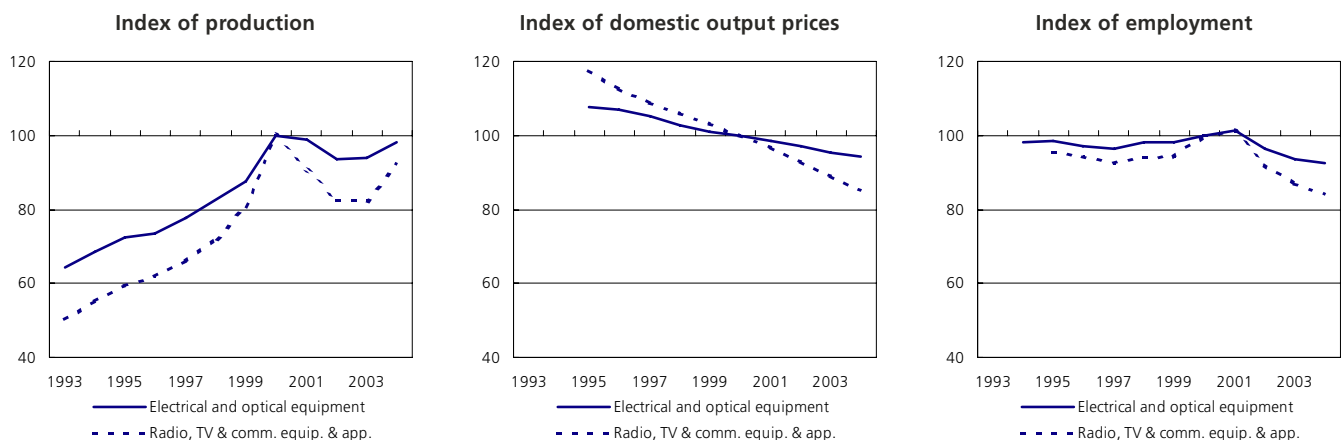
Source: Eurostat, PRODCOM

Annualised short-term statistics for the EU-25's production index for the manufacture of radio, television and communication equipment showed an average increase of 10.4 % per annum between 1993 and 2000 (when output peaked), the second fastest pace of growth among NACE divisions within the industrial economy, only exceeded by that recorded for the manufacture of computers of office equipment (NACE Division 30) (14). However, having expanded at a rapid pace, the EU-25's index of production subsequently fell for two years with output down by 9.5 % in 2001 and by 9.3 % in 2002. There was almost no change in the level of the production index in 2003, with 0.3 % growth registered, before a recovery in 2004, as output rose by 11.3 %. Domestic output prices for radio, television and communication equipment manufacturing fell at a rapid pace, losing an average of 3.5 % per annum between 1995 and 2004, compared with 1.5 % per annum for the whole of electrical machinery and optical equipment manufacturing.

EITO provide information on the market value of selected telecommunication products. Between 2002 and 2004 the only market to register an overall increase in its value was that for mobile telephone sets (13.0 % overall), while turnover fell for cellular mobile radio infrastructure (-7.2 %), packet switching and routing equipment (-7.8 %) and PBX (private telephone networks used within an enterprise) key systems and circuit switching equipment (-13.7 %).

(14) The extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying (NACE Division 11), the mining of metal ores (NACE Division 13), recycling (NACE Division 37), and the collection, purification and distribution of water (NACE Division 41), not available.

Figure 11.8
Manufacture of radio, television and communication equipment and apparatus (NACE Division 32)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 11.25

**Manufacture of radio, television and communication equipment and apparatus
(NACE Division 32)**
**Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002**

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (166.9)	Sweden (61.4)	Ireland (405.5)	Ireland (29.8)
2	Finland (161.5)	Austria (56.4)	Finland (355.9)	Cyprus (28.9)
3	Belgium (77.9)	Belgium (56.1)	Malta (326.3)	Finland (17.0)

(1) Belgium and Cyprus, 2001; Greece, Latvia, Luxembourg and the Netherlands, not available.

(2) Belgium, 2001; Greece, Cyprus, Latvia, Luxembourg and the Netherlands, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's manufacture of radio, television and communication equipment in 2001 was EUR 48 600 per person employed and average personnel costs per employee were EUR 40 700, which led to a wage adjusted labour productivity ratio of 119.5 %, some 4.7 percentage points below the average for the electrical machinery and optical equipment sector.

The gross operating rate shows the gross operating surplus in relation to turnover and for the EU-25's radio, television and telecommunication equipment sector it stood at 3.7 % in 2001, considerably lower than the average for the whole of the manufacture of electrical machinery and optical equipment (6.7 %).

EXTERNAL TRADE

Exports of radio, television and communication equipment and apparatus (CPA Division 32) from the EU-25 to non-Community countries were valued at EUR 56.7 billion in 2004, while imports were EUR 83.6 billion, resulting in a EUR 27.0 billion trade deficit. Among the three CPA groups covered in this subchapter, television and radio transmitters and apparatus for line telephony and line telegraphy (CPA Group 32.2) accounted for the highest share of EU-25 exports in 2004 (41.9 %), while communication equipment and electronic valves and tubes and other electronic components (CPA Group 32.1) accounted for the highest share of EU-25 imports (38.0 %).

Among the Member States, Germany accounted for the highest proportion of intra- and extra-EU trade in 2004, with a 23.6 % share of radio, television and communication equipment exports by EU Member States, and a 21.3 % share of imports. Finland, Sweden, Ireland, Hungary, Malta and Estonia were the only Member States to record a trade surplus for radio, television and communication equipment in 2004.

Table 11.26

Radio, television and communication equipment and apparatus (CPA Division 32)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Radio, TV & communication equip. & apparatus	56 676	6.3	6.7	83 643	8.8	8.3	-26 967	67.8
Electronic valves & tubes & other electronic components	22 619	2.5	2.6	31 759	3.4	3.9	-9 140	71.2
TV & radio transmitters; apparatus for line telephony & telegraphy	23 762	2.6	3.0	24 610	2.6	2.1	-848	96.6
TV & radio receivers; sound or video recording or reproducing app.	10 295	1.1	1.1	27 274	2.9	2.2	-16 979	37.7

Source: Eurostat, Comext

Table 11.27

Manufacture of office machinery and computers (NACE Division 30)
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	77 249	181 2 095	280 15 035	41	: 986 13 291	16 065	4 103	0	18	11	: 1 917	0					
Production (EUR million) (1)	82 984	162 2 088	276 13 458	26	: 962 11 278	15 699	3 811	0	20	7	: 1 717	0					
Value added at factor cost (EUR million) (2)	13 402	47 105	108 3 429	3	: 189 2 685	1 435	482	0	:	3	: 132	0					
Gross operating surplus (EUR million) (2)	4 258	14 45	36 930	1	: 12 266	869	-6	0	:	1	: 4	0					
Purchases of goods and services (EUR million)	:	122 1 992	167 11 338	39	: 820 10 287	14 626	3 562	0	15	8	: 1 787	0					
Gross investment in tangible goods (EUR million)	:	5 43	4 249	0	: 14 160	189	117	0	0	1	: 69	0					
Number of persons employed (thousands)	203	1 9	2 42	0	: 6 33	14	17	0	0	0	: 15	0					
Personnel costs (EUR million) (2)	9 144	34 55	72 2 499	2	: 177 2 420	566	488	0	:	1	: 128	0					
App. labour productivity (EUR thous./pers. emp.) (3)	65.9	53.8 12.0	68.2 81.5	13.2	: 29.7 80.6	101.5	28.7	:	:	7.3	: 9.0	2.0					
Average personnel costs (EUR thous./employee) (4)	46.9	44.2 6.9	45.8 59.9	8.5	: 31.5 72.7	40.1	33.9	:	:	3.9	: 9.0	11.4					
Wage adjusted labour productivity (%) (4)	140.6	121.7 174.4	149.0 135.9	154.4	: 94.5 110.8	253.4	84.4	:	:	188.6	: 100.1	177.4					
Gross operating rate (%) (2)	5.5	6.6 2.1	13.0 6.2	2.7	: 1.2 2.0	5.4	-0.2	:	:	11.8	: 0.2	6.7					
Investment per person employed (EUR thousand)	:	6.0 4.9	2.5 5.9	1.3	: 2.1 4.8	13.4	6.9	:	:	1.5	: 1.7	0.0					
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	1 785	846 752	42 166	41 96	649 18 703	50	:	124	:	:	:	123	:	:	:	:	:
Production (EUR million)	1 631	764 583	34 80	37 73	609 16 518	38	:	52	:	:	:	114	:	:	:	:	:
Value added at factor cost (EUR million)	303	107 111	7 23	9 14	184 4 003	5	:	10	:	:	:	15	:	:	:	:	:
Gross operating surplus (EUR million)	30	62 36	3 7	2 1	19 1 918	0	:	4	:	:	:	-9	:	:	:	:	:
Purchases of goods and services (EUR million)	1 494	754 623	37 138	31 83	467 14 310	46	:	115	:	:	:	108	:	:	:	:	:
Gross investment in tangible goods (EUR million)	:	8 36	3 4	2 1	16 335	2	:	4	:	:	:	2	:	:	:	:	:
Number of persons employed (thousands) (5)	9	1 5	0 1	1 0	4 44	2	:	2	:	:	:	0	:	:	:	:	:
Personnel costs (EUR million)	272	45 75	4 17	7 13	165 2 085	4	:	6	:	:	:	24	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.) (3)	55.2	78.6 20.3	24.4 23.5	7.7 34.6	46.6 90.5	2.6	:	4.3	:	:	:	39.4	:	:	:	:	:
Average personnel costs (EUR thous./employee) (4)	41.9	33.7 19.7	14.6 17.1	5.7 33.5	44.2 48.7	2.7	:	2.9	:	:	:	62.5	:	:	:	:	:
Wage adjusted labour productivity (%) (4)	131.5	233.1 103.0	167.8 137.3	134.3 103.3	105.5 185.7	96.2	:	147.7	:	:	:	63.0	:	:	:	:	:
Gross operating rate (%)	1.7	7.3 4.8	7.0 4.1	5.7 1.1	2.9 10.3	0.4	:	3.0	:	:	:	-7.3	:	:	:	:	:
Investment per person employed (EUR thousand)	:	6.0 6.6	9.5 3.8	1.5 2.0	4.1 7.6	1.3	:	1.8	:	:	:	3.8	:	:	:	:	:

(1) EU-25, 2001. (2) Belgium, 2001. (3) Belgium and the Netherlands, 2001. (4) Belgium, Malta and the Netherlands, 2001. (5) The Netherlands, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.28

Manufacture of electrical machinery and apparatus n.e.c. (NACE Division 31)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	231 181	4 407 4 100	4 313 89 231	134	: 14 185 27 165	3 153 30 072	36	104	124	50	5 733	96					
Production (EUR million) (2)	223 468	4 188 4 018	4 257 78 748	104	: 13 459 26 088	3 080 29 428	31	121	123	50	5 303	90					
Value added at factor cost (EUR million) (3)	70 671	1 633 1 255	1 267 27 998	38	: 4 075 8 241	915 8 584	12	25	28	18	1 147	42					
Gross operating surplus (EUR million) (3)	14 350	460 516	330 2 578	13	: 1 390 1 447	518 3 072	3	13	8	-2	499	22					
Purchases of goods and services (EUR million)	:	2 829 3 019	3 142 59 527	97	: 10 204 18 872	2 259 21 754	22	77	102	32	4 682	49					
Gross investment in tangible goods (EUR million)	:	108 250	213 2 954	6	: 426 1 000	99 1 162	1	3	6	:	242	6					
Number of persons employed (thousands)	1 685	23 112	24 519	3	: 91 170	13 207	1	3	5	0	74	1					
Personnel costs (EUR million) (3)	56 321	1 173 743	937 25 420	25	: 2 685 6 794	397 5 512	9	12	20	20	648	21					
App. labour productivity (EUR thous./pers. emp.) (3)	41.9	62.2 11.2	52.5 54.0	12.7	: 45.0 48.3	72.2 41.4	21.4	8.8	5.4	38.6	15.5	33.3					
Average personnel costs (EUR thous./employee) (3)	34.9	45.9 7.9	39.4 49.4	8.3	: 30.3 40.0	31.4 30.7	:	4.3	4.0	42.5	8.9	16.4					
Wage adjusted labour productivity (%) (3)	120.3	135.4 141.7	133.3 109.3	152.4	: 148.8 120.7	229.9 135.0	:	204.0	135.2	90.9	173.3	203.0					
Gross operating rate (%) (3)	6.2	9.7 12.6	7.7 2.9	9.7	: 9.8 5.3	16.4 10.2	9.1	17.0	6.2	-3.4	8.7	22.8					
Investment per person employed (EUR thousand)	:	4.7 2.2	8.8 5.7	2.1	: 4.7 5.9	7.8 5.6	1.7	1.0	1.1	:	3.3	4.4					
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	3 844	4 807 4 226	2 271 933	978 3 338	5 113 22 130	272	:	898	:	:	:	1 271	10 553				
Production (EUR million)	3 343	4 434 4 060	2 189 891	946 3 161	4 851 19 992	257	:	908	:	:	:	1 158	10 404				
Value added at factor cost (EUR million)	1 149	1 701 1 321	659 266	226 1 058	1 407 7 549	62	:	310	:	:	:	427	2 483				
Gross operating surplus (EUR million)	340	503 137	153 54	57 298	160 1 882	23	:	141	:	:	:	85	265				
Purchases of goods and services (EUR million)	2 599	3 193 3 040	1 613 622	764 2 237	3 693 14 204	222	:	653	:	:	:	863	7 918				
Gross investment in tangible goods (EUR million)	90	163 201	111 62	69 97	88 713	24	:	90	:	:	:	29	:				
Number of persons employed (thousands)	21	29 88	33 14	35 21	30 164	19	:	59	:	:	:	6	38				
Personnel costs (EUR million)	809	1 199 1 184	506 212	169 814	1 247 5 667	39	:	169	:	:	:	341	2 218				
App. labour productivity (EUR thous./pers. emp.)	55.9	59.4 15.0	20.2 18.5	6.4 51.2	47.7 46.1	3.3	:	5.3	:	:	:	67.5	65.9				
Average personnel costs (EUR thous./employee)	40.5	42.3 14.8	15.6 15.2	4.8 39.5	43.0 35.4	2.1	:	2.9	:	:	:	54.2	:				
Wage adjusted labour productivity (%)	138.0	140.4 101.3	128.8 121.2	133.0 129.5	111.0 130.3	154.1	:	180.6	:	:	:	124.5	:				
Gross operating rate (%)	8.8	10.5 3.3	6.7 5.8	5.8 8.9	3.1 8.5	8.5	:	15.7	:	:	:	6.7	2.5				
Investment per person employed (EUR thousand)	4.4	5.7 2.3	3.4 4.3	2.0 4.7	3.0 4.4	1.3	:	1.5	:	:	:	4.6	:				

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.29

Manufacture of radio, television and communication equipment and apparatus (NACE Division 32)
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million) (1)	232 705	5 037	2 376	1 985	42 486	97	6 295	35 996	4 221	15 097	0	21	256	6 049	1 101		
Production (EUR million) (1)	193 652	5 144	2 183	1 962	29 360	97	5 383	32 122	3 835	14 538	0	23	265	5 484	1 101		
Value added at factor cost (EUR million) (2)	46 163	1 522	504	538	8 548	36	1 203	7 915	1 667	4 415	0	83	722	176			
Gross operating surplus (EUR million) (2)	8 497	443	262	157	491	7	153	30	1 256	1 246	0	31	339	122			
Purchases of goods and services (EUR million) (3)	3 776	1 875	1 480	32 897	60	5 016	27 125	2 460	10 057	0	14	192	5 330	896			
Gross investment in tangible goods (EUR million) (3)	145	99	80	1 893	7	211	1 533	726	540	0	3	38	223	42			
Number of persons employed (thousands) (1)	949	18	34	10	156	5	31	156	10	102	0	1	8	41	3		
Personnel costs (EUR million) (2)	37 665	1 079	242	381	8 057	28	1 050	7 885	411	3 170	0	52	384	54			
App. labour productivity (EUR thous./pers. emp.) (2)	48.6	77.9	15.0	54.8	54.8	7.5	38.9	50.7	166.9	43.5	22.1	10.1	17.8	57.1			
Average personnel costs (EUR thous./employee) (4)	40.7	56.1	8.3	39.0	52.2	6.0	34.9	50.6	41.2	35.7	6.3	9.8	17.5				
Wage adjusted labour productivity (%) (4)	119.5	138.9	180.9	140.5	105.0	125.3	111.7	100.1	405.5	121.9	159.3	181.3	326.3				
Gross operating rate (%) (2)	3.7	8.2	11.0	7.9	1.2	7.6	2.4	0.1	29.8	8.3	28.9	12.2	5.6	11.1			
Investment per person employed (EUR thousand) (3)	8.1	3.0	8.2	12.1	1.4	6.8	9.8	72.8	5.3	3.0	2.8	4.6	5.5	13.7			
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	6 169	3 373	2 956	526	442	24 626	11 890	24 256	177	251	1 461						
Production (EUR million)	5 535	3 179	2 870	506	385	16 000	12 040	19 609	151	240	1 239						
Value added at factor cost (EUR million)	1 948	764	535	155	71	5 830	356	5 463	37	91	377						
Gross operating surplus (EUR million)	420	198	226	37	19	4 175	-2 271	602	22	42	40						
Purchases of goods and services (EUR million)	4 200	2 567	2 409	383	364	19 405	11 755	18 181	107	151	1 108						
Gross investment in tangible goods (EUR million)	369	125	94	23	15	325	230	491	4	21	22						
Number of persons employed (thousands)	27	30	12	7	9	36	43	103	5	12	6						
Personnel costs (EUR million)	1 528	566	309	118	52	1 637	2 627	4 861	14	49	337						
App. labour productivity (EUR thous./pers. emp.)	71.7	25.4	43.2	21.6	7.6	161.5	8.3	53.1	6.8	7.9	66.9						
Average personnel costs (EUR thous./employee)	56.4	22.4	25.2	17.0	5.6	45.4	61.4	48.1	2.8	4.4	59.9						
Wage adjusted labour productivity (%)	127.0	113.3	171.7	126.9	136.1	355.9	13.5	110.4	243.8	180.9	111.7						
Gross operating rate (%)	6.8	5.9	7.6	7.0	4.3	17.0	-19.1	2.5	12.5	16.8	2.7						
Investment per person employed (EUR thousand)	13.6	4.2	7.6	3.2	1.6	9.0	5.3	4.8	0.7	1.9	3.9						

(1) EU-25 and Cyprus, 2001. (2) EU-25, Belgium and Cyprus, 2001. (3) Cyprus, 2001. (4) EU-25 and Belgium, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 11.30

Manufacture of medical, precision and optical instruments, watches and clocks (NACE Division 33)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million) (2)	123 686	1 214	1 239	2 259	37 674	65	3 317	24 287	5 116	16 127	11	20	77	163	662	68	
Production (EUR million) (2)	116 670	1 180	1 201	2 206	34 696	62	3 268	22 765	5 069	15 500	9	22	77	163	541	68	
Value added at factor cost (EUR million) (3)	48 735	405	383	1 034	15 856	21	1 192	7 747	2 284	5 659	5	14	28	71	225	33	
Gross operating surplus (EUR million) (3)	16 217	127	163	334	3 851	5	394	1 467	1 588	2 516	2	10	10	9	86	17	
Purchases of goods and services (EUR million) (4)	767	885	1 256	21 260	47	2 208	16 467	2 838	10 493	6	11	49	91	428	34		
Gross investment in tangible goods (EUR million) (4)	54	55	111	1 241	3	118	674	255	840	1	2	6	34	5			
Number of persons employed (thousands) (2)	1 002	8	31	16	310	2	34	144	20	125	0	1	4	2	22	1	
Personnel costs (EUR million) (3)	32 518	277	221	700	12 005	16	797	6 280	696	3 143	3	5	18	63	140	16	
App. labour productivity (EUR thous./pers. emp.) (3)	48.6	47.2	12.3	65.3	51.1	8.5	35.6	53.7	113.2	45.2	19.7	11.0	7.8	36.6	10.5	29.1	
Average personnel costs (EUR thous./employee) (5)	34.9	38.9	8.2	44.7	40.2	6.6	27.2	45.0	34.5	33.3	3.6	5.1	32.5	7.9	14.5		
Wage adjusted labour productivity (%) (5)	139.5	121.4	150.2	146.0	127.0	129.1	130.6	119.2	328.0	135.8	303.7	151.7	112.7	132.8	201.0		
Gross operating rate (%) (3)	13.1	10.7	13.1	14.8	10.2	7.5	11.9	6.0	31.0	15.6	15.2	49.0	13.5	5.3	13.0	24.8	
Investment per person employed (EUR thousand) (4)	6.6	1.8	7.0	4.0	1.2	3.5	4.7	12.6	6.7	3.4	1.4	1.5	1.6	4.2			
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	1 572	1 500	385	382	236	1 993	4 713	19 430	67	162	2 720	17 516					
Production (EUR million)	1 499	1 373	363	370	209	1 998	4 531	18 419	62	154	2 592	17 627					
Value added at factor cost (EUR million)	776	621	133	135	73	777	1 521	8 208	18	58	1 014	6 964					
Gross operating surplus (EUR million)	275	24	49	28	30	296	276	2 801	6	26	139	2 570					
Purchases of goods and services (EUR million)	857	897	255	235	161	1 229	3 437	11 115	50	118	1 726	10 652					
Gross investment in tangible goods (EUR million)	93	88	61	16	21	9	56	161	677	4	12	37					
Number of persons employed (thousands)	27	16	53	6	8	7	12	26	130	7	12	14	75				
Personnel costs (EUR million)	501	597	84	106	42	499	1 245	5 407	12	32	875	4 394					
App. labour productivity (EUR thous./pers. emp.)	49.7	11.8	23.2	17.5	10.6	63.3	58.3	63.3	2.7	4.7	73.1	92.3					
Average personnel costs (EUR thous./employee)	34.1	16.0	15.5	14.2	6.2	41.4	49.4	42.8	2.1	2.8	63.2						
Wage adjusted labour productivity (%)	145.8	73.6	149.5	123.2	171.4	152.7	117.9	147.7	129.6	171.7	115.7						
Gross operating rate (%)	17.5	1.6	12.8	7.4	12.9	14.8	5.9	14.4	8.9	16.2	5.1	14.7					
Investment per person employed (EUR thousand)	3.5	5.6	1.2	2.7	2.7	1.3	4.6	6.2	5.2	0.5	2.7						

(1) Switzerland, 2001. (2) EU-25 and Cyprus, 2001. (3) EU-25, Belgium, Cyprus and Latvia, 2001. (4) Cyprus, 2001. (5) EU-25, Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Transport equipment



The transport equipment sector is central to economic development, as it provides the means for transporting both individuals and goods. Demand for transport equipment has risen rapidly in the past three decades, as the volume of goods transported and the distance travelled by passengers have both more than doubled since 1970. Globalisation and international free trade have stimulated demand for goods transport, while improved living standards, increased personal mobility, and more frequent holidays have led to rapid expansions in the distances travelled by passengers. These trends have been accompanied by a modal shift towards road transport, reflected in the increased number of goods vehicles and passenger cars on Europe's roads. At the same time deregulation of air transport markets has stimulated considerable growth in low-cost air travel. Increases in the volume of transport have led to congestion on major routes, in city centres, as well as in airspace, and subsequent environmental and health concerns. The issue of sustainable development is likely to play an important role in future product developments, as transport equipment manufacturers try to meet demands for more environmentally friendly transport solutions, for example, cars that consume less diesel or petrol, or that consume alternative fuels, or that are easier to recycle or dispose of at the end of their life, greater use of light railways and tramways, or high speed rail links. While this chapter deals with the manufacture of transport equipment, for more information on the operation of transport infrastructures and services please refer to Chapter 20.

Most transport equipment sectors are structured on the basis of complex pyramidal relationships between major manufacturers and several tiers of component suppliers, ranging from fairly large enterprises that supply whole systems down to very small, specialised manufacturers that may provide a single component for a vehicle. Deliveries from one level of the pyramid to the next are often made on a just-in-time basis and it is common to find clusters of enterprises concentrated in regions around the leading producers, within close proximity of the main client.

STRUCTURAL PROFILE

The EU-25's transport equipment sector (NACE Subsection DM) generated EUR 164.3 billion of value added in 2002, while employing just over 3 million persons. The transport equipment sector accounted for 9.3 % of the value added created within the EU-25's industrial (NACE Sections C to E) economy and 8.4 % of the workforce.

The EU-25's transport equipment sector is dominated by the manufacture of motor vehicles; trailers and semi-trailers (NACE Division 34), as this activity represented 71.8 % of sectoral value added and 72.1 % of employment in 2002. In somewhat more detail, the manufacture of motor vehicles including bodies, trailers and semi-trailers (NACE Groups 34.1 and 34.2) accounted for almost half (47.3 %) of the value added generated within the EU-25's transport equipment sector in 2002, while the manufacture of parts and accessories for motor vehicles and their engines (NACE Group 34.3), accounted for almost one quarter (24.9 %) of value added.

The manufacture of transport equipment is covered by two NACE divisions, the first of which covers the manufacture of motor vehicles (NACE Division 34), while the other covers the manufacture of other types of transport equipment, namely, shipbuilding, railway rolling stock, aerospace material, motorcycles and bicycles, and a residual category of other transport equipment (all included under NACE Division 35).

NACE

- 34: manufacture of motor vehicles, trailers and semi-trailers;
- 34.1: manufacture of motor vehicles;
- 34.2: manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers;
- 34.3: manufacture of parts and accessories for motor vehicles and their engines;
- 35: manufacture of other transport equipment;
- 35.1: building and repairing of ships and boats;
- 35.2: manufacture of railway and tramway locomotives and rolling stock;
- 35.3: manufacture of aircraft and spacecraft;
- 35.4: manufacture of motorcycles and bicycles;
- 35.5: manufacture of other transport equipment n.e.c.

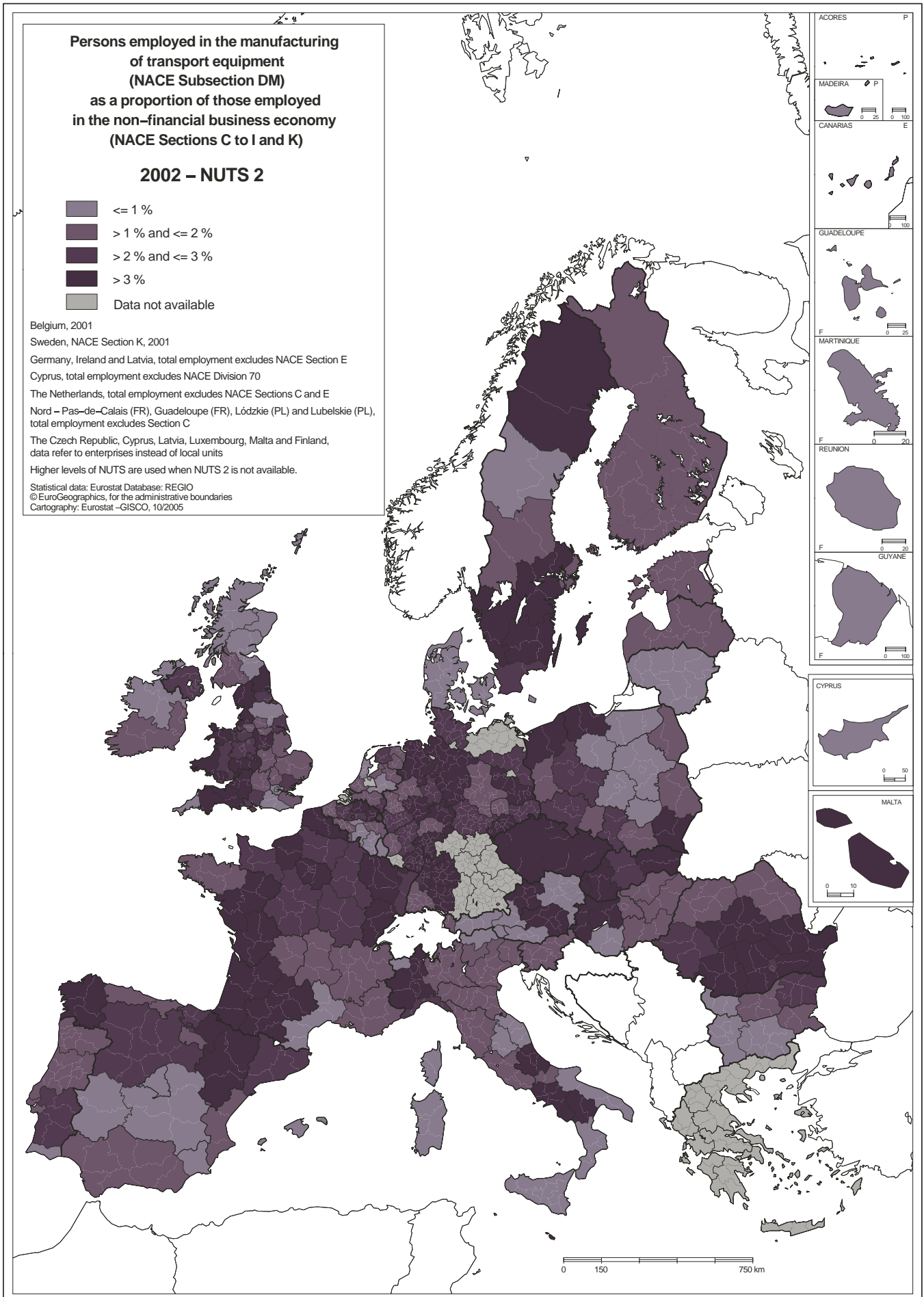


Table 12.1
Manufacture of transport equipment (NACE Subsection DM)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Manufacture of transport equipment	164 290	9.3	3 002	8.4
Manufacture of motor vehicles, trailers and semi-trailers	117 983	6.7	2 163	6.0
Motor vehicles manufacturing	77 677	4.4	1 310	3.7
Motor vehicle parts and accessories	40 839	2.3	863	2.4
Manufacture of other transport equipment	46 002	2.6	834	2.3
Aircraft and spacecraft	29 086	1.7	364	1.0
Miscellaneous transport equipment	16 916	1.0	465	1.3

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

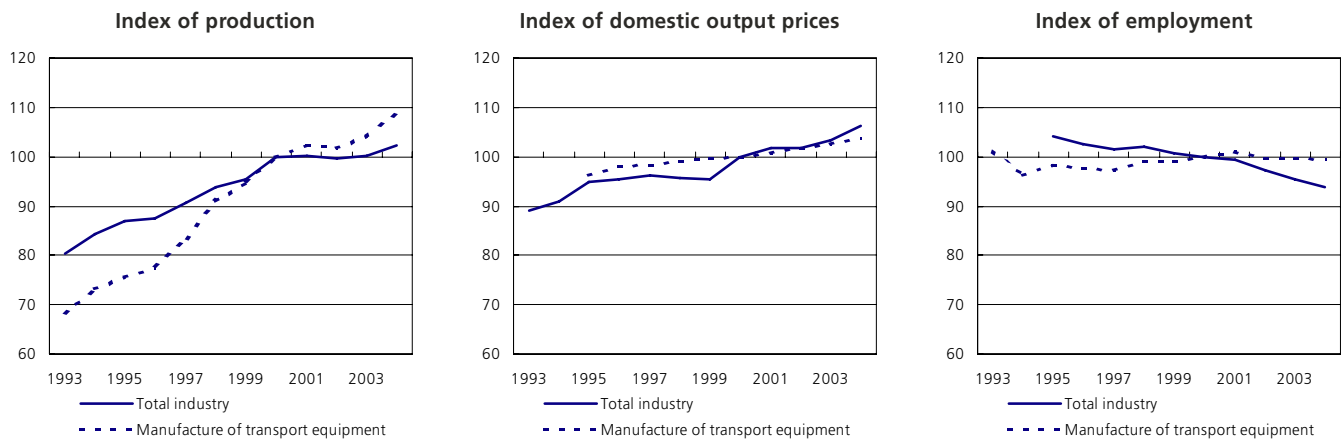
Among the other transport equipment activities, the manufacture of aircraft and spacecraft (NACE Group 35.3) was by far the largest activity, with a 17.7 % share of the value added for the whole of the transport equipment sector, which was more than three times the size of the value added generated by the building and repairing of ships and boats (NACE Group 35.1) with 5.3 %. The remaining activities were relatively small, as 3.2 % of the EU-25's transport equipment value added was created by the manufacture of railway and tramway locomotives and rolling stock (NACE Group 35.2), 1.4 % by the manufacture of motorcycles and bicycles (NACE Group 35.4) and 0.2 % by the miscellaneous grouping of other transport equipment n.e.c. (NACE Group 35.5) – note that the latest data available for the latter two activities are for 2001.

Table 12.2
Manufacture of transport equipment (NACE Subsection DM)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (39.3)	Germany (155.6)	Germany (33.7)	Germany (156.6)
2	France (16.4)	France (120.5)	France (13.7)	Sweden (140.3)
3	United Kingdom (15.8)	Sweden (117.4)	United Kingdom (12.8)	Malta (129.9)

(1) Belgium and Latvia, 2001; Greece, not available.
 (2) Belgium and Latvia, 2001; Greece and Ireland, not available.
 (3) Greece, not available.
 (4) Latvia, 2001; Greece and Ireland, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 12.1
Manufacture of transport equipment (NACE Subsection DM)
Evolution of main indicators, EU-25 (2000=100)



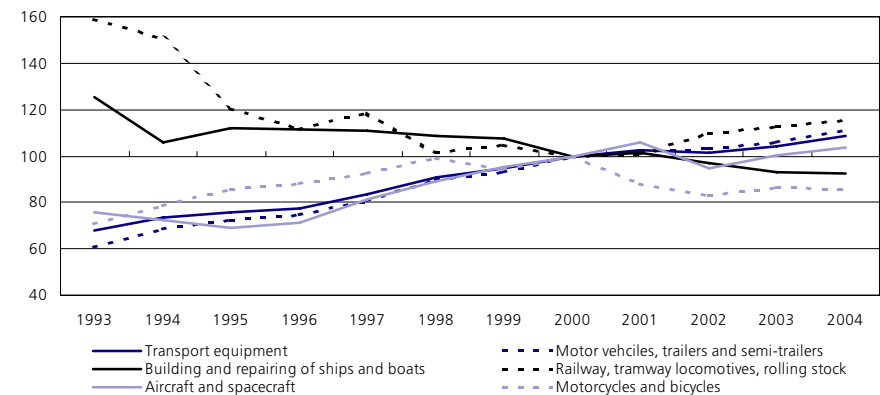
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Given the relatively high importance of the motor vehicles sector, it is perhaps not surprising to find that the largest share (39.3 %) of EU-25 value added among the Member States in 2002 was accounted for by Germany. The manufacture of transport equipment was particularly concentrated within the larger Member States, as Germany, France (16.4 % of EU-25 value added) and the United Kingdom (15.8 %) had a cumulative share of value added equal to 71.4 % in 2002, compared with their 54.6 % share of industrial value added. This high level of concentration meant that relatively few of the other Member States were specialised in the manufacture of transport equipment, with Sweden, the Czech Republic and Hungary the only other Member States ⁽¹⁾ to report that their respective transport equipment sectors contributed more to national industrial value added than the EU-25 average.

Changes in the EU-25 index of production for the manufacture of transport equipment were generally at a more rapid pace than the industrial average. During the period 1993 to 2004 output rose on average by 4.4 % per annum compared with 2.2 % for the industrial economy. Year on year growth rates recorded for transport equipment exceeded those for the industrial economy in each year except for 1995, when the industrial growth rate was 0.1 percentage points higher than that for transport equipment, and 2002 when production fell by 0.6 % for both the industrial economy as a whole and transport equipment manufacturing. Particularly rapid growth was recorded in 1997 and 1998, when the EU-25's production index for transport equipment manufacturing expanded by 7.9 % and 9.1 %. The latest data available showed a return to higher growth rates with a 4.5 % gain in 2004, following three years of modest growth or falling output.

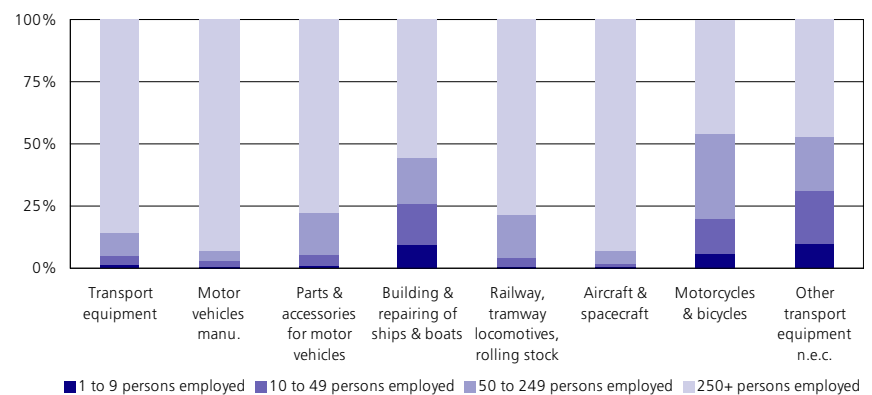
⁽¹⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

Figure 12.2
Manufacture of transport equipment (NACE Subsection DM)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 12.3
Manufacture of transport equipment (NACE Subsection DM)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

The growth in output was largely driven by the manufacture of motor vehicles, trailers and semi-trailers (NACE Division 34) with average growth of 5.7 % per annum between 1993 and 2004, while among the other transport equipment sectors there was a mixed pattern to the evolution of output. The highest rate of change was recorded for aircraft and spacecraft (NACE Group 35.3) where the EU-25 production index rose by an average of 2.9 % per annum over the period considered, while there was growth of 1.8 % per annum for the manufacture of motorcycles and bicycles (NACE Group 35.4). In contrast, the building and repairing of ships and boats (NACE Group 35.1) and railway and tramway locomotives and rolling stock (NACE Group 35.2) both saw their output fall between 1993 and 2004 by almost 3 % per annum on average.

While the manufacture of transport equipment was concentrated within the larger Member States, it was also concentrated within relatively large enterprises, as SMEs (employing less than 250 persons) generated 13.8 % of EU-25 value added in 2001, compared with an industrial average of 42.8 %. The dominance of large enterprises (with 250 or more persons employed) was particularly prevalent within the aircraft and spacecraft (NACE Group 35.3) and motor vehicles manufacturing (NACE Groups 34.1 and 34.2) subsectors, where these enterprises created 93.2 % and 93.1 % respectively of value added.

Table 12.3
Manufacture of transport equipment (NACE Subsection DM)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (industry=100) (1)	Proportion of those employed (%)	Index (industry=100)	< 25 years (2)	25-49 years (3)	50+ years (4)
EU-25	82.6	116.3	96.3	103.9	9.6	68.8	21.6
BE	84.4	110.6	95.2	106.4	13.8	73.4	12.8
CZ	68.4	107.8	98.8	101.5	10.6	65.2	24.2
DK	82.9	118.0	96.6	106.1	:	82.9	27.7
DE	83.0	114.7	95.2	106.7	10.6	69.5	19.9
EE	75.2	137.0	100.0	102.3	:	:	59.8
EL	95.4	130.3	99.6	101.4	:	68.1	25.4
ES	84.1	111.5	98.1	101.0	8.3	66.8	25.0
FR	84.4	118.1	96.6	102.6	9.1	67.5	23.4
IE	77.5	111.6	97.4	104.1	:	67.2	:
IT	79.5	111.7	97.3	103.6	7.0	76.2	16.8
CY	:	:	:	:	:	:	:
LV	100.0	170.4	100.0	105.0	:	57.2	31.3
LT	82.4	154.5	100.0	103.6	:	75.1	:
LU	:	:	:	:	:	:	:
HU	73.9	120.9	98.9	102.1	8.1	72.9	19.0
MT	94.8	121.1	100.0	103.3	:	75.7	40.9
NL	88.3	113.3	88.8	119.9	7.8	73.0	20.1
AT	84.2	114.6	94.1	105.5	16.9	67.1	16.0
PL	79.9	118.1	95.4	99.9	11.8	69.0	19.2
PT	78.7	133.4	99.0	101.6	21.6	69.5	18.9
SI	73.8	116.3	97.6	101.8	16.2	71.8	18.3
SK	76.1	122.9	99.7	101.0	22.9	62.7	14.4
FI	89.8	124.7	96.3	102.5	13.5	53.3	36.5
SE	79.6	106.6	97.2	106.5	10.0	66.8	23.2
UK	86.8	116.1	96.3	106.0	6.7	65.9	27.4

(1) Lithuania, 2003. (2) The Netherlands, 2003; Slovenia, 2002; Portugal and Finland, 2001. (3) Latvia and Lithuania, 2003. (4) Denmark, Latvia and Malta, 2002.
Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

The labour force characteristics of the transport equipment sector may be described as being typical of an industrial activity, with a very high proportion of men in the workforce and a high propensity to employ on a full-time basis. Some 82.6 % of the transport equipment workforce were male in 2004, compared with an industrial average of 71.0 %. The proportion of the workforce that was male was above the industrial average for both the manufacture of motor vehicles (NACE Division 34, 81.2 %) and the manufacture of other transport equipment (NACE Division 35, 86.5 %). Across the Member States the proportion of men in the transport equipment workforce also remained consistently above national industrial averages in 2004 ⁽²⁾. Differences were particularly marked in Estonia, Greece, Latvia, Lithuania (2003) and Portugal, where the proportion of men in the transport equipment workforce was more than 30 % above the national industrial average.

⁽²⁾ Lithuania, 2003; Cyprus and Luxembourg, not available.

As many as 96.3 % of the EU-25's transport equipment workforce worked on a full-time basis in 2004, with almost no difference between the manufacture of motor vehicles (96.3 %) and other transport equipment (96.1 %). These figures were above the industrial average of 92.7 %. The largest differential between full-time employment rates in the transport equipment sector and the industrial average was recorded in the Netherlands, where the share of full-time employment was 14.7 percentage points higher (note that the Netherlands typically has one of the lowest proportions of full-time employment across the Member States) ⁽³⁾.

In terms of the age profile of the transport equipment workforce, 9.6 % of those employed in the EU-25 were aged 15 to 24 (compared with 10.0 % for the industrial economy), 68.8 % of the workforce were aged 25 to 49 (68.4 %), while the remaining 21.6 % was made-up of persons aged 50 or more (21.6 %).

⁽³⁾ Cyprus and Luxembourg, not available.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's transport equipment sector was EUR 54 700 per person employed in 2002, which was 11.5 % higher than the industrial average. Average personnel costs were EUR 42 600, which was 31.9 % higher than the manufacturing (NACE Section D) average. As such, the transport equipment sector recorded the second highest apparent labour productivity and average personnel costs among NACE subsections within the industrial economy.

The value added created within the EU-25's transport equipment sector covered personnel costs (adjusted for the share of employees in persons employed) by 128.5 % in 2002, which was well below the 140.3 % average recorded for the whole of manufacturing. This pattern was repeated in the majority of the Member States as wage adjusted labour productivity ratios for transport equipment were generally below national industrial averages. Hungary,

Table 12.4
Transport equipment (CPA Subsection DM)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Transport equipment	161 983	18.0	17.7	101 793	10.7	12.8	60 190	159.1
Motor vehicles	78 533	8.7	7.2	32 261	3.4	3.7	46 272	243.4
Parts and accessories for motor vehicles	25 084	2.8	2.3	11 879	1.3	1.3	13 205	211.2
Ships and boats	11 051	1.2	1.3	9 755	1.0	0.6	1 296	113.3
Railway and tramway locomotives and rolling-stock	2 226	0.2	0.2	1 031	0.1	0.1	1 195	215.9
Aircraft and spacecraft	43 528	4.8	6.6	41 340	4.4	6.4	2 188	105.3
Motorcycles and bicycles	1 445	0.2	0.1	5 424	0.6	0.7	-3 979	26.6
Other transport equipment n.e.c.	115	0.0	0.0	102	0.0	0.0	13	112.6

Source: Eurostat, Comext

Slovakia and the Czech Republic were the only Member States where wage adjusted labour productivity was more than 20 percentage points above the national industrial average ⁽⁴⁾.

Despite fairly rapid growth in output and one of the highest levels of apparent labour productivity, relatively high average personnel costs weighed on the profitability of the transport equipment sector. The gross operating rate is one measure of profitability, it stood at 4.3 % in 2002 for the EU-25's transport equipment sector, which was less than half the industrial average (10.0 %). Note that profitability (using this measure) was particularly low within the motor vehicles sector during 2001 and 2002, as excess capacity and increasing competition forced manufacturers to concentrate on shipping large volumes of vehicles with relatively low margins. The manufacture of aircraft and spacecraft was the only NACE group within the EU-25's transport equipment sector to record a higher gross operating rate (11.5 %) than the industrial average in 2002 ⁽⁵⁾.

EXTERNAL TRADE

The EU-25 ran a significant trade surplus with non-Community countries for transport equipment (CPA Subsection DM) which was valued at EUR 60.2 billion in 2004; the second highest surplus among manufacturing CPA subsections. Exports from the EU-25 were EUR 162.0 billion, of which almost two thirds (64.0 %) were accounted for by motor vehicles, trailers and semi-trailers (CPA Division 34). In contrast, more than half (56.6 %) of the EU-25's transport equipment imports were accounted for by other transport equipment (CPA Division 35). These differences in the respective shares of transport equipment exports and imports were reflected in the EU-25 trade surpluses for motor vehicles, trailers and semi-trailers (EUR 59.5 billion) and other transport equipment (EUR 712 million).

Germany was by far the most important exporter of transport equipment in 2004, with exports to the rest of the world (intra- and extra-EU trade combined) valued at EUR 160.3 billion, some 31.5 % of the total for all Member States. France (18.7 %) was the only other Member State to report a double-digit share of EU exports. In terms of export specialisation, Germany and France both reported that their share of EU transport equipment exports was almost 7 percentage points higher than their share of industrial exports. Spain was also relatively specialised in exporting transport equipment goods, as were Slovakia, Poland and the Czech Republic.

⁽⁴⁾ Belgium and Latvia, 2001; Greece, not available.

⁽⁵⁾ The manufacture of motorcycles and bicycles (NACE Group 35.4) and the manufacture of other transport equipment n.e.c. (NACE Group 35.5) both recorded gross operating rates below the industrial average in 2001; no data available for 2002.

12.1: MOTOR VEHICLES

NACE Division 34 covers the manufacture of motor vehicles, trailers and semi-trailers. It contains three NACE groups, the first two of which are covered by this subchapter, namely, the manufacture of motor vehicles (NACE Group 34.1) and the manufacture of bodies for motor vehicles, trailers and semi-trailers (NACE Group 34.2). The data for these two NACE groups are presented (where possible) in the form of an aggregate covering both activities, referred to as the motor vehicles manufacturing sector.

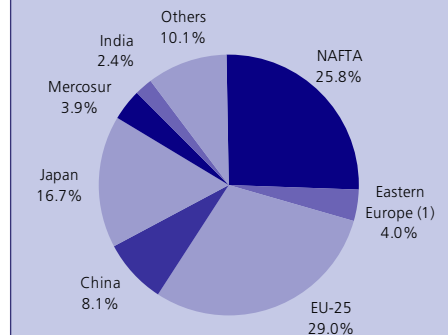
According to VDA ⁽⁶⁾, the EU-25 produced 29.0 % of the world's passenger cars in 2004, which marked a 1.2 percentage point reduction on 2003; the relative decline resulted from more rapid growth in the number of vehicles produced in Asia (most notably China and India) – see Figure 12.4. There were 14.5 million passenger cars sold in Western Europe in 2004 (up 2 % compared with 2003), marking the first increase since 2001, while the number of registrations of light and heavy goods vehicles rose by 9 % to 2.3 million units in 2004, probably as a result of increased demand for goods transport within the enlarged EU. For more information on the retail sale of motor vehicles please refer to Chapter 16.

The motor vehicles manufacturing sector is characterised by an enterprise structure that is dominated by a few, very large enterprises. These are supported by partners and contractors who deliver systems, parts and accessories. The sector has for a number of years been characterised by mergers, acquisitions and other forms of co-operation agreements. However, consolidation has not always been successful, for example, BMW's acquisition of MG Rover (and its subsequent sale in 2000 and closure five years later) or the dissolution of a partnership agreement between General Motors and Fiat in 2005. The main motor vehicle manufacturers within the EU-25 currently include DaimlerChrysler, Fiat, Ford Europe, General Motors Europe, PSA (Peugeot-Citroën), Renault, and Volkswagen Group – see Table 12.5. Smaller volume producers often specialise in niche markets (such as sports or luxury cars), and many are owned by large manufacturers. The market for light and heavy goods vehicles also witnessed consolidation and merger activity in recent years; some of the leading manufacturers include DaimlerChrysler, Iveco, MAN, Scania and Volvo.

⁽⁶⁾ VDA (Verband der Automobilindustrie), more information at: <http://www.vda.de>.

According to the Directorate-General for Enterprise, almost 40 % of the transport sector's CO₂ emissions are produced by private cars undertaking urban travel, leading to concerns regarding traffic congestion, air pollution and traffic-related diseases, while sustainability of oil supply has also been a cause for apprehension. The European Commission has promoted sustainable transport policies and encouraged the introduction of greener vehicles. One initiative currently being discussed is a new (Euro 5) set of emission standards that should come into force in 2010. The most significant change being proposed is to reduce particulates from diesel cars from 25 mg/km to 5 mg/km, which would result in all new diesel cars having to be fitted with filters. Other environmental legislation includes a new law relating to sulphur-free fuel (which is to be phased in by 2008), while there are plans to encourage the use of bio fuels, natural gas, or hydrogen. The European Commission has also agreed voluntary reductions with the Association of European Automobile Manufacturers (ACEA) towards a target of 140 g of CO₂/km for all new passenger cars

Figure 12.4
Largest passenger car producing countries, 2004 (% share of world production)



(1) Including Russia and Turkey.
Source: VDA, <http://www.vda.de>

that are sold in the EU-25 by the year 2008; similar agreements were also reached with Japanese and South Korean producers. Vehicle manufacturers are working on a number of new technologies for cleaner, more fuel-

Table 12.5
New registrations of passenger cars in Western Europe by manufacturer, 2004 (1)

Group	Main brands	Units	Market share (%)
BMW	BMW	574 234	4.0
	Mini	123 638	0.9
Daimler-Chrysler	Chrysler	57 805	0.4
	Jeep	30 779	0.2
	Mercedes	688 506	4.7
	Smart	133 417	0.9
Fiat	Alfa Romeo	153 432	1.1
	Fiat	783 242	5.4
	Lancia	115 153	0.8
Ford	Ford	1 248 828	8.6
	Jaguar	58 429	0.4
	Land Rover	70 367	0.5
	Volvo	246 664	1.7
General Motors	Opel	1 311 287	9.0
	Saab	79 793	0.5
Japanese manufacturers	(2)	1 838 299	12.7
Korean manufacturers	(3)	601 373	4.1
MG Rover	Rover	113 400	0.8
PSA	Citroen	887 199	6.1
	Peugeot	1 148 738	7.9
Renault	Renault	1 489 208	10.3
Volkswagen	Audi	555 848	3.8
	Seat	375 990	2.6
	Skoda	247 872	1.7
	Volkswagen	1 440 803	9.9

(1) EU-15, Iceland, Norway and Switzerland.

(2) Honda, Mazda, Mitsubishi, Nissan, Suzuki and Toyota.

(3) Daewoo, Hyundai and Kia.

Source: ACEA, <http://www.acea.be>

efficient vehicles, including hybrid-electric, clean diesel, hydrogen-fuelled and fuel cell-powered vehicles. While the cost of some of these may at present be prohibitive, further research coupled with tax incentives could well drive the price of alternatively fuelled vehicles down. This may well be necessary in an attempt to influence consumer behaviour towards more environmentally friendly vehicles, given recent growth in demand for multi-purpose vehicles (MPVs, also known as people carriers) and four wheel drive (4x4) vehicles. The European Commission is also active in promoting the technical harmonisation of vehicles and provisions for road safety, for example, the adoption of a draft directive ⁽⁷⁾ on the compulsory fitting of seat belts that will extend this requirement to an additional two million commercial vehicles.

⁽⁷⁾ COM(2003) 361.

Box 12.1: relocation of motor vehicle production

Many of Europe's leading vehicle manufacturers have relocated some of their manufacturing base to the Member States that joined the EU in 2004, the Candidate countries, or other areas of southern and eastern Europe, as well as developing production outside of Europe. This trend is likely to have been driven by a desire to make labour cost savings, start production quickly, and to establish production bases in areas with high potential consumer growth. One of the most popular strategies was to forge a partnership with a local manufacturer, such as Renault/Revoz in Novo Mesto (SI), or Renault-Dacia in Pitesti (RO). In some cases the partnership led to a full merger, such as the purchase of both Skoda (CZ) and BAV (SK) by the Volkswagen Group. While initial investments were designed to satisfy local demand, recent years have seen vehicle manufacturers increasingly use their new production bases to export production to western Europe. There were also a number of new production facilities built on greenfield sites (areas of land which have not previously been built on), such as Fiat's engine plant in Bielsko-Biala (PL) or PSA-Toyota's factory for the production of small cars in Kolin (CZ). Indeed, production is particularly concentrated among low priced, relatively small vehicles. One particular development has been the production of the Renault Logan, which was launched in 2004 in eastern Europe for around EUR 5 000, thus appealing to a previously untapped market. Cost savings made for this vehicle were realised through a combination of lower labour costs, local sourcing of parts and components, and a relatively low standard specification for the model.

Table 12.6

Motor vehicles manufacturing (NACE Groups 34.1 and 34.2) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (48.1)	Germany (190.3)	Germany (43.6)	Germany (202.4)
2	France (17.6)	Sweden (146.0)	France (15.0)	Sweden (177.1)
3	United Kingdom (9.2)	France (129.9)	United Kingdom (9.3)	Belgium (166.2)

(1) Belgium, 2001; Estonia, Greece, Latvia, Luxembourg and Slovakia, not available.

(2) Belgium, 2001; Estonia, Greece, Ireland, Latvia, Luxembourg and Slovakia, not available.

(3) Estonia, Greece, Luxembourg and Slovakia, not available.

(4) Estonia, Greece, Ireland, Latvia, Luxembourg and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

The EU-25's motor vehicles manufacturing sector (NACE Groups 34.1 and 34.2) created EUR 77.6 billion of value added in 2002, which equated to 47.3 % of the transport equipment (NACE Subsection DM) total. Its share of the transport equipment workforce was 3.6 percentage points lower, suggesting that apparent labour productivity was above the transport equipment average.

Germany generated almost half (48.1 %) of the EU-25's value added for motor vehicles manufacturing (NACE Groups 34.1 and 34.2) in 2002. The addition of France (17.6 %) and the United Kingdom (9.2 %) took the cumulative share of the three largest producers to 74.9 % of the EU-25 total. Germany was the most specialised Member State, as motor vehicles manufacturing (NACE Groups 34.1 and 34.2) contributed almost double (190.3 %) the EU-25 average to German industrial value added. Sweden recorded a value added specialisation ratio of 146.0 %, while France (129.9 %), Hungary (120.8 %) and Belgium (114.0 %, 2001) were the only other Member States to be relatively specialised in the manufacture of motor vehicles (NACE Groups 34.1 and 34.2) ⁽⁸⁾.

⁽⁸⁾ Belgium, 2001; Estonia, Greece, Ireland, Latvia, Luxembourg and Slovakia, not available.

The evolution of output for the manufacture of motor vehicles (NACE Group 34.1) generally followed an upward path between 1993 and 2004, as year on year changes in the production index were negative just once, in 2003 (-0.3 %). In relation to transport equipment manufacturing as a whole, the index of production for motor vehicles (NACE Group 34.1) rose at a slightly faster pace, gaining an average of 4.6 % per annum over the period considered (compared with 4.4 %). However, the most rapid period of growth for the manufacture of motor vehicles (NACE Group 34.1) was during the late 1990s, as during the last three years for which data are available the production index was virtually unchanged, rising by 0.1 % in 2002, contracting by 0.3 % in 2003, and then growing by 1.4 % in 2004. The evolution of the production index for bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (NACE Group 34.2) followed a more modest pattern of growth, with average gains of 2.9 % per annum between 1993 and 2004.

Table 12.7
Production value of selected motor vehicles (CPA Group 34.1), EU-25, 2003
 (EUR million)

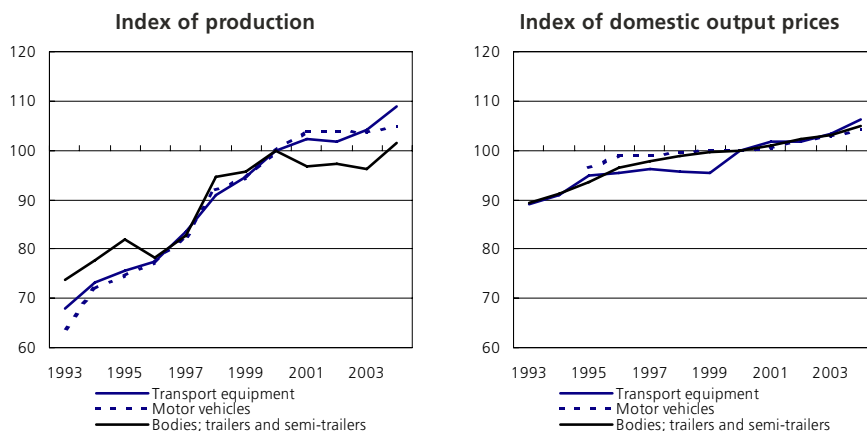
	Prodcom code	
Motor vehicles with a petrol engine =<1000cc	34.10.21.33	1 554.4
Motor vehicles with a petrol engine >1500cc	34.10.22.30	126 044.8
Motor vehicles with a diesel or semi-diesel engine =<1500cc	34.10.23.10	13 003.5
Motor vehicles with a diesel or semi-diesel engine >1500cc but =<2500cc	34.10.23.30	79 608.6
Motor vehicles with a diesel or semi-diesel engine >2500cc	34.10.23.40	7 579.0
Goods vehicles with a diesel or semi-diesel engine, of a gross vehicle weight =<5 tonnes	34.10.41.10	17 377.4
Goods vehicles with a diesel or semi-diesel engine, of a gross vehicle weight >5 tonnes and =<20 tonnes	34.10.41.30	6 300.2
Goods vehicles with a diesel or semi-diesel engine, of a gross vehicle weight >20 tonnes	34.10.41.40	5 361.8
Road tractors for semi-trailers	34.10.44.00	6 425.7
Crane lorries	34.10.52.00	1 421.5
Fire fighting vehicles	34.10.54.30	567.5
Special purpose motor vehicles (e.g. breakdown lorries, etc)	34.10.54.90	1 040.6

Source: Eurostat, PRODCOM

When value added was expressed in relation to personnel costs (adjusted for the share of employees in persons employed) the EU-25's wage adjusted labour productivity ratio for the manufacture of motor vehicles (NACE Group 34.1) was, at 122.6 %, almost identical to that for the manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (NACE Group 34.2), which stood at 123.0 % in 2002; both of these figures were well below the manufacturing average of 140.3 %.

The low profitability of the motor vehicles sector in recent years may be partly attributed to excess capacity. VDA estimates that there was enough global capacity to produce about 80 million passenger cars and other light vehicles in 2004, while global production was around 60 million units. One measure of profitability is the gross operating rate, which was 2.5 % for the EU-25's motor vehicles manufacturing sector (NACE Groups 34.1 and 34.2) in 2002, compared with an industrial average of 10.0 %. Profitability by this measure was particularly low in the German motor vehicles manufacturing sector (NACE Groups 34.1 and 34.2) in 2002, as the gross operating surplus was valued at just 1.2 % of turnover. In Italy, adjusted personnel costs exceeded value added, resulting in a wage adjusted labour productivity ratio of 72.7 % and a negative gross operating rate (-2.2 %) in 2002; this was a weaker position than for 2001 when the wage adjusted labour productivity ratio was already just below 100 % (99.1 %) and a gross operating rate of 0.0 % was registered. France and the United Kingdom also recorded relatively low gross operating rates in 2002, at 2.9 %.

Figure 12.5
Motor vehicles manufacturing (NACE Groups 34.1 and 34.2)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

PRODUCTIVITY AND PROFITABILITY

Persons employed within the motor vehicles manufacturing sector (NACE Groups 34.1 and 34.2) generated an average of EUR 59 300 of value added in 2002, some 20.9 % above the average for total industry (NACE Sections C to E). There was a stark contrast between the apparent labour productivity ratios for motor vehicles (NACE Group 34.1) and bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (NACE Group 34.2), as the former stood at EUR 62 600 per person employed, while apparent labour productivity for the latter was EUR 38 300 per person

employed. This disparity was also reflected in average personnel costs, as employees cost an average of EUR 51 000 within the manufacture of motor vehicles (NACE Group 34.1) compared with EUR 31 200 for the manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers (NACE Group 34.2), which was just below the manufacturing (NACE Section D) average of EUR 32 300 per employee.

Table 12.8

Motor vehicles; bodies; trailers and semi-trailers (CPA Groups 34.1 and 34.2)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Motor vehicles; bodies; trailers and semi-trailers	78 533	8.7	7.2	32 261	3.4	3.7	46 272	243.4
Motor vehicles	76 608	8.5	7.0	31 865	3.4	3.6	44 742	240.4
Bodies (coachwork); trailers and semi-trailers	1 926	0.2	0.1	396	0.0	0.1	1 530	486.2

Source: Eurostat, Comext

EXTERNAL TRADE

The EU-25 benefited from a trade surplus of EUR 46.3 billion for motor vehicles bodies, trailers and semi-trailers (CPA Groups 34.1 and 34.2) in 2004, which was mainly fuelled by exports to the United States and other European countries. Germany accounted for more than one third (35.8 %) of EU exports (intra- and extra-EU trade) to the rest of the world in 2004, followed by France (13.6 %) and Spain (9.2 %). Slovakia, Spain and Germany were the most specialised Member States in terms of exporting motor vehicles, relative to their exports of all goods.

Germany also recorded by far the highest trade surplus (intra- and extra-EU trade) for motor vehicles, trailers and semi-trailers (CPA Groups 34.1 and 34.2) in 2004 at EUR 59.9 billion, which was almost six times the next highest balance registered in France (EUR 10.5 billion); the Czech Republic, Hungary, Poland and Slovakia were the only other Member States to report trade surpluses for motor vehicles, trailers and semi-trailers (CPA Groups 34.1 and 34.2) in 2004; the largest deficits were recorded in Italy and the United Kingdom (EUR 16.7 billion and EUR 14.5 billion respectively).

12.2: MOTOR VEHICLE PARTS AND ACCESSORIES

This subchapter covers the remaining NACE group from Division 34, namely the manufacture of parts and accessories for motor vehicles and their engines (NACE Group 34.3). The data presented in this subchapter does not cover the manufacture of tyres (see Chapter 6), nor that of batteries or other electrical equipment used in motor vehicles (see Chapter 11).

Demand for vehicle parts and accessories is divided between that for original equipment (OE) which is supplied directly to motor vehicle manufacturers, and that for the after-market (AM) as used for the upkeep, repair and modification of vehicles. In keeping with the trend for consolidation among vehicle manufacturers, there has also been a similar evolution within the parts and accessories market. This has in part been driven by vehicle manufacturers trying to reduce the number of suppliers they use and contracting for the development of complete systems instead of individual parts and accessories. Therefore, those enterprises trying to compete for such business may need to have a minimum efficient scale of production, a broad geographical reach, and also the capability to engage in significant research and development. There is

an increasing trend for larger vehicle parts suppliers to follow the motor vehicle manufacturers and to set-up their production facilities near to their major customers; this trend is particularly evident in eastern Europe and in China. By locating near to vehicle assembly plants, suppliers of parts and accessories are able to deliver products more rapidly and efficiently, while drawing on lower local labour costs and maximising their share of added value as they increasingly deliver complete systems. VDA estimates that more than half of the leading 100 equipment suppliers of vehicle parts and accessories were located in the Czech Republic in 2004, although the manufacture of parts and accessories was spreading to a wider area covering Wrocław, Katowice and Cracow in Poland, Martin-Zilina in Slovakia, as well as western Hungary and more recently Romania.

While some EU manufacturers try to remain competitive through engaging in research and development, others are concerned by a lack of protection for their intellectual property rights, manifested in the circulation of counterfeit replacement parts. The European Parliament and Council made a proposal for a directive to amend Directive 98/71/EC on the legal protection of designs for visible replacement

parts on 14 September 2004 ⁽⁹⁾. The proposal would allow independent parts manufacturers to compete for visible replacement parts (such as, bumpers, doors, windscreens), subject to them being of at least the same quality as the original part. Under the proposal, parts and accessory manufacturers would retain exclusive rights covering designs in relation to the manufacture of new vehicles, which the European Commission believes should be sufficient reward to maintain an incentive to innovate.

STRUCTURAL PROFILE

The motor vehicle parts and accessories sector (NACE Group 34.3) was the second largest of the activities covered within transport equipment (NACE Subsection DM) subchapters, as value added in the EU-25 was EUR 40.8 billion in 2002, equivalent to 24.9 % of the transport equipment total; or approximately half that of the motor vehicles manufacturing sector (NACE Groups 34.1 and 34.2). There were 863 400 persons employed in the EU-25's motor vehicle parts and accessories sector, which equated to 28.8 % of the transport equipment total in 2002.

⁽⁹⁾ COM(2004) 582 final.

Germany accounted for 43.3 % of the value added generated within the EU-25's motor vehicle parts and accessories sector in 2002, while the United Kingdom (12.0 %), France (11.7 %) and Italy (10.3 %) also accounted for double-digit shares. In terms of relative specialisation, the manufacture of motor vehicle parts and accessories was found to be located in the main vehicle producing Member States, for example, Germany (171.5 %) or Spain (113.5 %), or in Member States that were specialised in motor vehicle manufacturing such as the Czech Republic (216.9 %) or Hungary (146.8 %) ⁽¹⁰⁾.

The EU-25 index of production for motor vehicle parts and accessories grew at a rapid pace between 1993 and 2004, gaining an average of 6.9 % per annum. In contrast to the assembly of motor vehicles, there was not as much of a slowdown in activity from 2000 onwards, as EU-25 output rose by 2.1 % and 2.3 % in 2001 and 2002, and then returned to much higher growth rates in 2003 and 2004, as output expanded by 5.2 % and 8.4 %.

PRODUCTIVITY AND PROFITABILITY

The apparent labour productivity of the EU-25's motor vehicle parts and accessories sector was EUR 47 300 per person employed in 2002, which was below both the transport equipment and industrial averages of EUR 54 700 and EUR 49 100. Average personnel costs per employee were EUR 36 400, which resulted in a wage adjusted labour productivity ratio of 129.9 %, almost the same as the transport equipment average of 128.5 %, but somewhat lower than the manufacturing (NACE Section D) average of 140.3 %.

Apparent labour productivity for motor vehicle parts and accessories was more than 20 % above the national industrial average in the Czech Republic, Hungary, Portugal and Slovenia in 2002 ⁽¹¹⁾, while average personnel costs were more than 10 % above the national industrial average in the Czech Republic, Germany, Spain, Hungary and Portugal ⁽¹²⁾. Combining these two ratios, the wage adjusted labour productivity ratio for motor vehicle parts and accessories showed value added covering personnel costs (after adjusting for the share of employees in persons employed) about twice over in the Czech Republic, Slovakia and Hungary. Wage adjusted labour productivity ratios were above national industrial averages in Slovenia, the Czech Republic, Austria, Hungary and Portugal ⁽¹³⁾.

⁽¹⁰⁾ Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

⁽¹¹⁾ Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

⁽¹²⁾ Belgium, 2001; Estonia, Greece, Ireland, Cyprus, Latvia and Luxembourg, not available.

⁽¹³⁾ Belgium, 2001; Estonia, Greece, Ireland, Cyprus, Latvia and Luxembourg, not available.

Table 12.9
Motor vehicle parts and accessories (NACE Group 34.3)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (43.3)	Czech Republic (216.9)	Germany (35.1)	Germany (163.1)
2	United Kingdom (12.0)	Germany (171.5)	United Kingdom (11.5)	Czech Republic (152.9)
3	France (11.7)	Hungary (146.8)	Italy (10.3)	Hungary (110.4)

(1) Belgium, 2001; Estonia, Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

(3) Estonia, Greece and Luxembourg, not available.

(4) Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

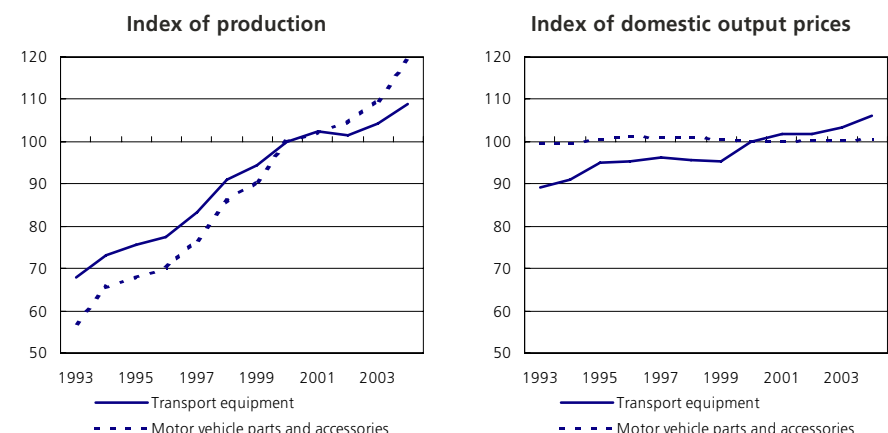
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 12.10
Production value of selected parts and accessories for motor vehicles and their engines (CPA Group 34.3), EU-25, 2003 (EUR million)

	Prodcom code	
Parts suitable for use solely or principally with spark-ignition internal combustion piston engines	34.30.11.00	13 509.3
Parts suitable for use solely or principally with compression-ignition internal combustion piston engines	34.30.12.00	9 360.3
Bumpers and parts thereof	34.30.20.10	2 262.6
Mounted brake linings	34.30.20.23	1 722.9
Brakes and servo-brakes and their parts	34.30.20.25	8 611.5
Gear boxes	34.30.20.33	8 623.5
Non-driving axles and their parts	34.30.20.37	2 576.4
Road wheels and parts and accessories thereof	34.30.20.40	3 366.6
Suspension shock absorbers	34.30.20.50	2 312.3
Radiators	34.30.20.61	2 245.5
Clutches and parts thereof	34.30.20.65	3 003.0
Steering wheels, steering columns and steering boxes	34.30.20.67	5 586.8
Safety seat belts	34.30.30.30	2 272.6

Source: Eurostat, PRODCOM

Figure 12.6
Motor vehicle parts and accessories (NACE Group 34.3)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 12.11

Motor vehicle parts and accessories (NACE Group 34.3)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Austria (72.7)	Germany (49.3)	Czech Republic (214.3)	Malta (19.1)
2	Germany (58.3)	Austria (40.3)	Slovakia (199.3)	Slovakia (14.2)
3	Belgium (57.7)	Belgium (40.1)	Hungary (190.9)	Czech Republic (13.5)

(1) Belgium, 2001; Estonia, Greece, Latvia and Luxembourg, not available.

(2) Belgium, 2001; Estonia, Greece, Cyprus, Latvia and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The gross operating rate, which is one measure of profitability, stood at 6.5 % for the EU-25's motor vehicle parts and accessories sector in 2002, below the industrial average of 10.0 %. This pattern was repeated in most of the Member States, although in Slovenia, Hungary, Slovakia, the Czech Republic and Austria, the gross operating rate for motor vehicle parts and

accessories was higher than the industrial average ⁽¹⁴⁾. EU-25 profitability (using this measure) was kept low by the performance of some of the larger Member States, as gross operating rates in Germany (4.5 %), France (5.8 %), the United Kingdom (7.0 %) and Italy (8.4 %) remained well below national industrial averages.

⁽¹⁴⁾ Belgium, 2001; Estonia, Greece, Ireland, Latvia and Luxembourg, not available.

12.3: AEROSPACE EQUIPMENT

This subchapter includes information on the production of aircraft that are used for the transport of passengers or freight, as well as military applications. The data presented also cover other means of air transport, for example gliders, balloons and spacecraft, as well as the manufacture of parts and accessories which are used in the construction of aerospace equipment. All of these activities are classified under NACE Group 35.3.

The aerospace equipment sector is highly concentrated within the EU-25 and the United States. It is also concentrated within a few, large enterprises in a similar way to motor vehicle manufacture, with an industrial structure characterised by a pyramidal supply chain, with manufacturers of aircraft, missiles, space equipment and engines at the top of the pyramid, followed by a second-tier of suppliers making systems, medium-sized enterprises producing structural elements and components, and a final tier of SMEs producing materials, software and services (note that these may be excluded from data on this sector, as their principal activity may not be the manufacture of aerospace equipment).

This sector has been characterised in recent years by consolidation, and the development of strategic alliances, for example, Airbus Industrie, Arianespace, Eurofighter or Galileo Industries. While consolidation was initially prevalent among first tier manufacturers, it has subsequently spread to lower tiers of the equipment supply chain, as large manufacturers increasingly require their suppliers to invest in research and development, organise lower-tier suppliers, and deliver integrated systems. The move towards consolidation may be seen as a reaction to the problems faced by SMEs, for example, a lack of resources for innovation, or difficulties coping with irregular demand arising from peaks and troughs associated with irregular orders.

STRUCTURAL PROFILE

The EU-25's aerospace equipment sector (NACE Group 35.3) created EUR 29.1 billion of value added in 2002, which was 17.7 % of the transport equipment (NACE Subsection DM) total. This share of value added was considerably higher than the contribution (12.1 %) of the aerospace equipment sector to the EU-25's transport equipment workforce.

EXTERNAL TRADE

EU-25 exports of parts and accessories for motor vehicles and their engines to non-Community countries in 2004 were valued at EUR 25.1 billion, which was equivalent to just under one third (31.9 %) of the value of exports of motor vehicles (CPA Groups 34.1 and 34.2). Trade in parts and accessories for motor vehicles and their engines followed a somewhat different pattern to that displayed for motor vehicles, as major vehicle producing Member States such as Germany and Spain were relatively specialised in exporting these goods, as were a number of other Member States including Portugal, Italy, and several of the Member States that joined the EU in 2004, including the Czech Republic, Hungary, Poland and Slovakia. The Czech Republic, Germany and Italy all reported cover ratios (the ratio of exports to imports) of almost 200 % for vehicle parts and accessories.

Some 38.6 % of the EU-25's value added in this sector in 2002 was generated in the United Kingdom, while Germany (22.4 %) and France (21.9 %) also accounted for more than one fifth of the value added. The dominance of these three larger Member States was reflected in terms of value added specialisation ratios, as only the United Kingdom (244.7 %) and France (161.6 %) reported their aerospace equipment industries contributing a greater share than the EU-25 average to industrial value added ⁽¹⁵⁾.

The evolution of the index of production for aerospace equipment followed a rather different pattern to that for transport equipment as a whole. There were significant reductions in output in the mid 1990s, followed by rapid growth through to 2001. However, the effects of the general economic slowdown, coupled with a downturn in air transport after the terrorist attacks in America in September 2001, resulted in a 10.6 % contraction in output in 2002. Subsequently growth returned and output of the EU-25's aerospace equipment sector rose by 5.7 % and 3.5 % in 2003 and 2004. Note that the effects of the downturn were particularly felt in Italy and the United Kingdom, as the level of output in 2004 was still below that recorded in 2000.

⁽¹⁵⁾ Greece, Ireland, Latvia, Luxembourg and Malta, not available.

PRODUCTIVITY AND PROFITABILITY

The EU-25's aerospace equipment sector was particularly productive, as in 2002 an average of EUR 79 900 of value added was generated per person employed, some 46.1 % or EUR 25 200 above the average for the whole of transport equipment and the highest ratio among the NACE groups that make-up the transport equipment sector. Average personnel costs per employee were EUR 51 100, which was 20.0 % or EUR 8 500 above the transport equipment average.

The highest apparent labour productivity in this sector was recorded for the largest producer of aerospace equipment, namely the United Kingdom, where in 2002 an average of EUR 105 800 of value added was generated by each person employed. The next highest level was recorded in Germany (EUR 86 200), with none of the remaining Member States reporting apparent labour productivity above the EU-25 average ⁽¹⁶⁾.

Combining the ratios of apparent labour productivity and average personnel costs, the EU-25's wage adjusted productivity ratio for aerospace equipment showed that value added covered personnel costs (adjusted for the share of employees in persons employed) by 156.5 % in 2002; also the highest ratio among NACE groups that make-up the transport equipment sector. The highest productivity using this measure was also recorded in the United Kingdom (196.8 %), in many Member States value added per person employed only just covered personnel costs per employee, while in Poland (72.5 %) and Portugal (68.5 %) this was not achieved ⁽¹⁷⁾. Relatively high personnel costs often resulted in wage adjusted labour productivity ratios in this sector being well below national industrial averages. However, wage adjusted labour productivity for aerospace equipment exceeded national industrial averages in all the countries with production of some significance, except Spain and Sweden: in Italy (by 12.5 %), the United Kingdom (8.8 %), Germany (6.1 %), Belgium (2.2 %, 2001) and France (0.2 %).

⁽¹⁶⁾ Belgium and Denmark, 2001; Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg and Malta, not available.

⁽¹⁷⁾ Belgium and Denmark, 2001; Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg and Malta, not available.

Table 12.12
Manufacture of aircraft and spacecraft (NACE Group 35.3)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (1)	Share of EU-25 employment (%) (2)	Industrial employment specialisation (EU-25=100) (3)
1	United Kingdom (38.6)	United Kingdom (244.7)	United Kingdom (29.2)	United Kingdom (263.9)
2	Germany (22.4)	France (161.6)	France (22.6)	France (189.6)
3	France (21.9)	Germany (88.5)	Germany (20.7)	Sweden (125.0)

(1) Belgium, Denmark and Estonia, 2001; Greece, Ireland, Latvia, Luxembourg and Malta, not available.

(2) Denmark and Estonia, 2001; Greece, Ireland, Luxembourg and Malta, not available.

(3) Denmark and Estonia, 2001; Greece, Ireland, Latvia, Luxembourg and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

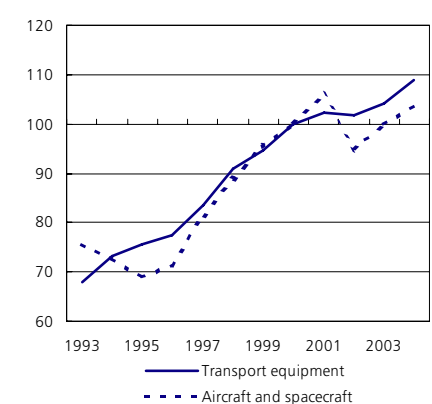
Table 12.13
Breakdown of consolidated turnover in the aerospace industry, EU-15, 2003

	Turnover (EUR billion)	(% of total)
Total	74.0	100.0
Aircraft	67.5	91.2
Aircraft final products (1)	36.8	49.7
Large civil aircraft	18.8	25.4
Regional aircraft	0.9	1.2
Business jets	1.5	2.1
Helicopters	4.3	5.8
Military aircraft	11.2	15.2
Aerostructures	3.0	4.0
Aircraft engines	5.9	8.0
Aircraft equipment	5.7	7.7
Aircraft maintenance	16.1	21.8
Missiles (1)	3.2	4.3
Space (1)	3.3	4.5

(1) Data comprises EU and non-EU supplied aerostructures, engines and equipment.

Source: ASD, <http://www.asd-europe.org>

Figure 12.7
Manufacture of aircraft and spacecraft (NACE Group 35.3)
Evolution of the index of production, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 12.14
Manufacture of aircraft and spacecraft (NACE Group 35.3)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	United Kingdom (105.8)	Germany (62.4)	United Kingdom (196.8)	United Kingdom (22.0)
2	Germany (86.2)	France (55.2)	Italy (167.4)	Denmark (18.8)
3	Denmark (79.5)	United Kingdom (53.8)	Denmark (163.2)	Belgium (16.9)

(1) Belgium and Denmark, 2001; Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The profitability of the EU-25's aerospace equipment sector, as measured by the gross operating rate (11.5 %), stood well above the transport equipment average of 4.3 % in 2002. Once again the United Kingdom reported the highest level for this ratio, with a gross operating rate of 22.0 %, which was 43.9 % above its industrial average. Other Member States where the gross operating rate was relatively high included Belgium (83.3 % higher than the Belgian industrial average, 2001), Germany (62.4 %) and Italy (42.2 %) ⁽¹⁸⁾.

⁽¹⁸⁾ Belgium and Denmark, 2001; Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg and Malta, not available.

EXTERNAL TRADE

The rivalry between EU-25 and United States manufacturers of aerospace equipment is particularly prevalent with respect to subsidy and trade issues. At a bilateral level, the EU and the United States concluded in 1992 an agreement on trade in large civil aircraft, regulating the level of government support to aircraft industries. At a multilateral level, trade in civil aircraft is governed by the 1979 GATT agreement on trade in civil aircraft.

Some 26.9 % of the EU-25's exports of transport equipment to non-Community countries in 2004 were accounted for by aircraft and spacecraft (CPA Group 35.3). Exports were valued at EUR 43.5 billion, which was EUR 2.2 billion higher than the corresponding level of imports. France dominated exports of aircraft and spacecraft, with exports (intra- and extra-EU trade) valued at EUR 37.9 billion, or 42.5 % of total EU-25 exports. Germany and the United Kingdom followed with 21.3 % and 19.3 % shares respectively; making a cumulative share of 83.1 % for these three Member States, the next highest share being that of Italy (3.7 %). The same three Member States had a cumulative share of 76.2 % of EU-25 imports (from all partners), with France again accounting for the largest proportion (36.7 %).

12.4: MISCELLANEOUS TRANSPORT EQUIPMENT

This miscellaneous grouping of the remaining transport equipment activities brings together information on the building of ships and boats (NACE Group 35.1), the manufacture of railway and tramway locomotives and rolling stock (NACE Group 35.2), the manufacture of motorcycles and bicycles (NACE Group 35.4) and the manufacture of other transport equipment (NACE Group 35.5); note that for the latter, there is no detailed analysis provided.

The miscellaneous transport equipment sector (NACE Groups 35.1, 35.2, 35.4 and 35.5) generated EUR 16.9 billion of value added in 2002 in the EU-25 and employed 464 800 persons. As such, the combined weight of these activities in the whole of the EU-25's transport equipment (NACE Subsection DM) sector was 10.3 % in terms of value added and 15.5 % in terms of employment. More than half (51.5 %) of the EU-25's value added generated within miscellaneous transport equipment activities was derived from the

building and repairing of ships and boats (NACE Group 35.1) in 2002, while 30.8 % was created by the railway supply subsector (NACE Group 35.2). In 2001, some 14.0 % of the EU-25's value added among miscellaneous transport equipment activities was accounted for by the manufacture of motorcycles and bicycles (NACE Group 35.4), while a relatively low share of 2.2 % was recorded for the manufacture of other transport equipment (NACE Group 35.5).

Table 12.15
Miscellaneous transport equipment (NACE Groups 35.1, 35.2, 35.4 and 35.5)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Miscellaneous transport equipment	16 916	1.0	465	1.3
Building and repairing of ships and boats	8 708	0.5	257	0.7
Railway, tramway locomotives, rolling stock	5 207	0.3	138	0.4
Motorcycles and bicycles (1)	2 363	0.1	65	0.2
Other transport equipment n.e.c. (1)	365	0.0	10	0.0

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 12.16
Miscellaneous transport equipment (CPA Groups 35.1, 35.2, 35.4 and 35.5)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Miscellaneous transport equipment	14 837	1.7	1.7	16 312	1.7	1.4	-1 475	91.0
Ships and boats	11 051	1.2	1.3	9 755	1.0	0.6	1 296	113.3
Railway and tramway locomotives and rolling-stock	2 226	0.2	0.2	1 031	0.1	0.1	1 195	215.9
Motorcycles and bicycles	1 445	0.2	0.1	5 424	0.6	0.7	-3 979	26.6
Other transport equipment n.e.c.	115	0.0	0.0	102	0.0	0.0	13	112.6

Source: Eurostat, Comext

BUILDING AND REPAIRING OF SHIPS AND BOATS

Shipbuilding is a very cyclical activity, characterised by considerable over capacity, weak demand and depressed prices during the late 1990s. From 2003 there was an upturn in the fortunes of this subsector. According to CESA ⁽¹⁹⁾, the world order book at the end of 2004 reached more than 90 million compensated gross tonnes (CGT), in excess of 3.5 times annual global capacity. European ⁽²⁰⁾ shipyards recorded 6.8 million CGT of new orders to account for 15.1% of the global order book. More than 90 % of the world's shipbuilding activity – as measured by shares in the global order book – was located in South Korea (35.0 %), Japan (30.3 %), Europe (15.1 %) and China (12.6 %).

EU-25 value added for the building and repairing of ships and boats (NACE Group 35.1) stood at EUR 8.7 billion in 2002, with 256 900 persons employed. Production was spread over a relatively large number of Member States, with no Member State accounting for more than the 17.2 % of EU-25 value added that was recorded for the United Kingdom. Those Member States with a coastline tended to report relatively high degrees of specialisation, particularly Malta, Finland, the Baltic States and Denmark ⁽²¹⁾.

The apparent labour productivity of the EU-25's building and repairing of ships and boats subsector was relatively low at EUR 33 900 per person employed in 2002, representing some 62.0 % of the average for transport equipment. Average personnel costs per employee were also relatively low at EUR 31 000, resulting in a wage adjusted labour productivity ratio of 109.4 %, the lowest among the NACE groups that constitute transport equipment manufacturing.

Shipbuilding is not covered by multilateral trade rules and the European Commission supported a WTO action against South Korea, establishing a Temporary Defensive Mechanism (TDM) which authorised direct aid of up to 6 % to EU shipyards producing container ships, chemical and product tankers, and LNG carriers until 31 March 2005. The EU-25 ran a trade surplus of EUR 1.3 billion for ships and boats (CPA Group 35.1) in 2004, based on exports of EUR 11.1 billion.

⁽¹⁹⁾ CESA (Committee of European Shipbuilders Association), more information at: <http://www.cesa-shipbuilding.org>.

⁽²⁰⁾ EU-15, Poland, Croatia, Romania and Norway.

⁽²¹⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

Table 12.17
Global shipbuilding main indicators, 2004

	Turnover (EUR thousand million)	Turnover (thousand cgt)	New orders (thousand cgt)
Europe (1)	10 463	3 691	6 798
Japan (2)	9 323	7 897	13 675
South Korea	9 595	8 339	15 806
China	4 970	2 726	5 691

(1) EU-15, Poland, Croatia, Romania and Norway.

(2) Turnover data for fiscal 2003, through to 31 March 2004.

Source: CESA, Koshipa, Saj, Cansi, Lloyd's-Fairplay in AWES-CESA, <http://www.cesa-shipbuilding.org>

Table 12.18
Building and repairing of ships and boats (NACE Group 35.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (17.2)	Malta (851.0)	United Kingdom (13.8)	Malta (1 467.7)
2	Italy (14.2)	Finland (380.4)	Poland (13.7)	Finland (357.6)
3	Germany (13.4)	Lithuania (352.1)	Spain (12.4)	Netherlands (257.2)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 12.19
Manufacture of railway, tramway locomotives, rolling stock (NACE Group 35.2)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (1)	Share of EU-25 employment (%) (2)	Industrial employment specialisation (EU-25=100) (3)
1	Germany (25.8)	Austria (290.2)	Germany (16.5)	Slovakia (395.7)
2	United Kingdom (15.6)	Slovakia (254.6)	Poland (12.6)	Czech Republic (201.8)
3	France (15.1)	Czech Republic (236.6)	France (10.6)	Hungary (180.8)

(1) Belgium, Denmark, Estonia, Greece, Ireland, Latvia and Lithuania, not available.

(2) Belgium, Denmark, Estonia, Greece, Ireland, Lithuania and the Netherlands, not available.

(3) Belgium, Denmark, Estonia, Greece, Ireland, Latvia, Lithuania and the Netherlands, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

MANUFACTURE OF RAILWAY AND TRAMWAY LOCOMOTIVES AND ROLLING STOCK

Rail supply manufacturers often cite the lack of a technical and regulatory regime to harmonise track widths, power supply systems, signalling systems, operational rules or safety regulations as a major hindrance to their performance. Directive 2004/50/EC amended previous directives on the interoperability of the trans-European high-speed and conventional rail systems. However, urban and light railways (estimated by UNIFE ⁽²²⁾ to account for 50 % of

the rail supply market) are at the time of writing not regulated and fragmentation in this market results in relatively expensive, tailor-made solutions.

Value added generated by the EU-25's rail supply subsector (NACE Group 35.2) was EUR 5.2 billion in 2002, equivalent to a 3.2 % share of the transport equipment total. Slightly more than one quarter of the EU-25's value added was accounted for by Germany (25.8 %), while the United Kingdom (15.6 %) and France (15.1 %) were the other main

⁽²²⁾ UNIFE (Union of European Railway Industries), more information at: <http://www.unife.org>.

producers. In relative terms, Austria, Slovakia, the Czech Republic and Hungary were the most specialised producers of rail supply equipment in 2002 ⁽²³⁾.

The apparent labour productivity of the rail supply subsector was below the transport equipment average, as EUR 37 700 of value added was generated per person employed in 2002 (compared with EUR 54 700). Average personnel costs per employee at EUR 31 400 were also well below the transport equipment average (EUR 42 600), resulting in a wage adjusted labour productivity ratio of 119.9 %, which was the second lowest among the NACE groups that constitute the transport equipment sector.

The EU-25 exported EUR 2.2 billion of railway and tramway locomotives and rolling-stock (CPA Group 35.2) in 2004, while importing EUR 1.0 billion worth of equipment. The largest proportion of EU exports (intra- and extra-EU trade) was accounted for by Germany (37.0 %), followed by Austria (15.4 %).

MANUFACTURE OF MOTORCYCLES AND BICYCLES

ACEM ⁽²⁴⁾ estimate that the number of mopeds and motorcycles in use within the EU-25 was 12.5 million and 14.0 million respectively in 2003, with the market for motorcycles growing in recent years while that for mopeds has shrunk. According to COLIBI ⁽²⁵⁾, bicycle production exceeded 15 million units in the EU ⁽²⁶⁾ in the early 1980s, after which output followed a downward trend, with 10 million units produced in 2003. Demand was considerably higher, reaching 16 million units in the same 11 Member States in 2003.

The EU-25's motorcycles and bicycles subsector (NACE Group 35.4) created EUR 2.4 billion of value added in 2001, which was 1.4 % of the transport equipment total, while employing 64 500 persons (2.1 % of the transport equipment total). Italy was the largest producer of motorcycles and bicycles in the EU-25, with a 35.2 % share of EU-25 value added in 2001, as well as being the most specialised producer of motorcycles and bicycles, as the manufacture of these goods contributed 2.75 times more to Italian industrial value added than the EU-25 average.

⁽²³⁾ Belgium, Denmark, Estonia, Greece, Ireland, Latvia and Lithuania, not available.

⁽²⁴⁾ ACEM (European Motorcycle Manufacturers Association), more information at: <http://www.acembike.org/html/start.htm>.

⁽²⁵⁾ COLIBI (Comité de Liaison des Fabricants Européens de Bicyclettes), more information at: <http://www.colibi.com>.

⁽²⁶⁾ Belgium, Denmark, Germany, Spain, France, Italy, the Netherlands, Austria, Portugal, Finland and Great Britain.

Table 12.20 Production value of selected motorcycles and bicycles parts and accessories (CPA Group 35.4), EU-25, 2003 (EUR million)

	Prodcom code	
Scooters with an engine capacity >50cm³ but <=250cm³	35.41.12.13	749.9
Motorcycles with an engine capacity >250cm³ but <=500cm³	35.41.12.30	293.5
Motorcycles with an engine capacity >500cm³ but <=800cm³	35.41.12.50	568.1
Motorcycles with an engine capacity >800cm³	35.41.12.70	1 186.9
Parts and accessories for motorcycles, mopeds and scooters (excl. saddles)	35.41.20.90	1 508.7
Bicycles without ball bearings	35.42.10.30	87.1
Bicycles with ball bearings	35.42.10.50	2 093.4
Frames for bicycles	35.42.20.13	109.6
Front forks for bicycles	35.42.20.15	11.6
Wheel rims for bicycles	35.42.20.23	100.5
Wheel spokes for bicycles	35.42.20.25	27.1
Hubs without free-wheel or braking device for bicycles	35.42.20.27	35.2
Brakes for bicycles	35.42.20.39	50.3
Saddles for bicycles	35.42.20.40	83.3
Pedals for bicycles	35.42.20.53	12.4
Crank-gear for bicycles	35.42.20.55	31.0
Luggage-carriers for bicycles	35.42.20.65	14.2

Source: Eurostat, PRODCOM

Table 12.21 Manufacture of motorcycles and bicycles (NACE Group 35.4) Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (1)	Wage adjusted labour productivity (%) (1)	Gross operating rate (%) (2)
1	Austria (87.2)	Sweden (38.2)	Austria (254.8)	Austria (16.4)
2	Spain (65.5)	Denmark (37.7)	Spain (232.8)	United Kingdom (16.3)
3	United Kingdom (56.9)	Germany (37.2)	United Kingdom (171.3)	Spain (13.6)

(1) France, 2001; Belgium, Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg, Malta, the Netherlands and Slovakia, not available.

(2) France, 2001; Belgium, Estonia, Greece, Ireland, Cyprus, Latvia, Luxembourg, Malta and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Although the apparent labour productivity of the EU-25's motorcycles and bicycles subsector was relatively low at EUR 36 700 per person employed in 2001, wage adjusted labour productivity (135.2 %) was close to the transport equipment average (139.1 %), as a result of average personnel costs of EUR 27 100 per employee (the lowest level among any of the NACE groups that make-up the transport equipment sector).

The EU-25 ran a trade deficit for motorcycles and bicycles (CPA Group 35.4) that was valued at almost EUR 4.0 billion in 2004, with a relatively high share of imports originating from Japan, Taiwan, Vietnam, China and the Philippines. Italy was the largest exporter of motorcycles and bicycles among the Member States in 2004 with exports (intra- and extra-EU trade) valued at EUR 2.0 billion (26.5 % of the total for the EU Member States).

Table 12.22
Manufacture of motor vehicles, trailers and semi-trailers (NACE Division 34)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	720 579	19 407	9 797	1 145	273 265	90	:	49 323	192 073	527 47 847	22	15	17	:	6 704	3	
Production (EUR million) (2)	574 985	17 997	9 731	1 005	231 582	90	:	44 596	188 149	516 41 344	20	16	17	:	6 582	3	
Value added at factor cost (EUR million) (3)	117 983	3 272	1 967	331	55 016	28	:	7 950	18 471	163 6 178	8	6	5	:	1 248	1	
Gross operating surplus (EUR million) (3)	24 098	850	1 102	63	5 364	15	:	2 565	6 259	64 597	3	3	4	:	821	1	
Purchases of goods and services (EUR million)	:	15 911	8 091	835	218 750	63	:	42 364	173 645	356 41 143	14	11	12	:	5 646	1	
Gross investment in tangible goods (EUR million)	:	589	813	46	11 677	6	:	2 610	4 941	30 1 630	0	2	1	:	432	0	
Number of persons employed (thousands)	2 163	50	90	7	874	2	:	163	283	4 170	0	1	0	:	37	0	
Personnel costs (EUR million) (3)	93 885	2 422	865	268	49 652	13	:	5 384	12 212	99 5 582	6	2	1	:	427	1	
App. labour productivity (EUR thous./pers. emp.) (3)	54.5	60.6	22.0	50.5	62.9	17.6	:	48.9	65.2	45.4 36.3	22.1	8.6	11.3	:	33.8	17.5	
Average personnel costs (EUR thous./employee) (3)	43.7	45.2	9.7	41.1	56.9	8.4	:	33.3	43.1	28.0 33.4	:	3.5	3.3	:	11.7	10.6	
Wage adjusted labour productivity (%) (3)	124.9	133.9	225.9	122.9	110.6	208.9	:	146.8	151.1	162.3 108.9	:	244.7	338.9	:	289.7	165.1	
Gross operating rate (%) (3)	3.3	4.4	11.2	5.5	2.0	16.1	:	5.2	3.3	12.1 1.2	11.6	23.9	20.5	:	12.2	21.9	
Investment per person employed (EUR thousand)	:	11.9	9.1	7.0	13.4	3.5	:	16.1	17.4	8.4 9.6	0.8	2.5	1.8	:	11.7	0.3	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	7 765	9 243	7 765	4 853	1 444	2 973	1 040	20 552	66 057	32	:	1 096	:	:	:	944	939
Production (EUR million) (2)	7 133	9 320	7 344	4 361	1 419	2 962	961	20 185	56 117	30	:	1 104	:	:	:	955	971
Value added at factor cost (EUR million)	1 818	2 235	1 561	839	154	432	352	4 122	12 021	12	:	259	:	:	:	336	324
Gross operating surplus (EUR million)	811	979	369	403	42	284	96	844	2 601	6	:	58	:	:	:	62	66
Purchases of goods and services (EUR million)	5 929	7 322	6 393	4 023	1 267	2 559	700	17 515	53 346	21	:	890	:	:	:	645	646
Gross investment in tangible goods (EUR million)	81	475	893	200	40	200	27	1 233	2 794	1	:	215	:	:	:	63	:
Number of persons employed (thousands)	25	28	80	24	7	19	7	74	222	3	:	70	:	:	:	6	5
Personnel costs (EUR million)	1 008	1 256	1 192	436	112	148	261	3 277	9 420	6	:	201	:	:	:	274	258
App. labour productivity (EUR thous./pers. emp.)	72.2	79.0	19.6	35.0	21.3	22.4	47.0	56.1	54.3	3.8	:	3.7	:	:	:	58.8	66.6
Average personnel costs (EUR thous./employee)	40.9	44.6	15.7	18.3	15.5	7.7	35.3	44.7	42.8	2.0	:	2.9	:	:	:	48.2	:
Wage adjusted labour productivity (%)	176.6	177.1	124.6	191.7	137.4	292.1	133.4	125.3	126.7	189.9	:	127.5	:	:	:	122.2	:
Gross operating rate (%)	10.4	10.6	4.8	8.3	2.9	9.6	9.2	4.1	3.9	19.0	:	5.3	:	:	:	6.5	7.0
Investment per person employed (EUR thousand)	3.2	16.8	11.2	8.3	5.5	10.4	3.6	16.8	12.6	0.4	:	3.1	:	:	:	11.0	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 12.23
Manufacture of other transport equipment (NACE Division 35)
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	151 046	1 679	921	1 509	27 886	95	:	8 068	45 424	490 14 723	12	108	131	:	369	72	
Production (EUR million) (1)	158 678	1 794	893	1 486	28 133	90	:	8 254	45 587	480 16 725	11	108	147	:	307	69	
Value added at factor cost (EUR million) (2)	46 002	745	263	421	9 550	30	:	2 579	8 401	204 4 659	5	54	41	:	116	42	
Gross operating surplus (EUR million) (2)	13 555	227	58	75	2 108	12	:	635	2 183	29 1 599	2	30	2	:	27	-28	
Purchases of goods and services (EUR million)	:	1 197	749	1 084	18 788	69	:	6 102	38 891	262 11 870	6	69	97	:	277	29	
Gross investment in tangible goods (EUR million)	:	77	58	46	1 097	4	:	496	1 491	14 704	1	10	13	:	30	1	
Number of persons employed (thousands)	834	11	24	8	138	3	:	58	128	4 93	0	6	7	:	10	4	
Personnel costs (EUR million) (2)	32 447	518	205	346	7 442	18	:	1 944	6 218	175 3 060	3	23	38	:	89	70	
App. labour productivity (EUR thous./pers. emp.) (2)	55.2	65.1	10.8	52.5	69.1	11.3	:	44.2	65.9	45.8 50.3	31.7	9.8	6.2	:	11.7	11.1	
Average personnel costs (EUR thous./employee) (2)	39.8	46.3	8.7	44.2	54.2	6.8	:	34.3	49.0	39.4 35.4	:	4.3	5.8	:	9.4	18.8	
Wage adjusted labour productivity (%) (2)	138.7	140.7	124.8	118.7	127.5	165.6	:	128.8	134.3	116.2 142.1	:	229.5	105.7	:	124.9	58.9	
Gross operating rate (%) (2)	9.0	11.5	6.3	5.0	7.6	12.5	:	7.9	4.8	5.9 10.9	16.0	30.9	1.8	:	7.3	-38.9	
Investment per person employed (EUR thousand)	:	7.2	2.4	5.8	7.9	1.5	:	8.5	11.7	3.1 7.6	3.3	1.8	2.0	:	3.1	0.1	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	4 673	2 130	2 296	650	142	230	2 258	3 608	32 985	132	:	838	:	:	:	6 984	:
Production (EUR million)	4 769	2 161	2 290	717	144	238	2 241	3 540	31 395	124	:	871	:	:	:	6 991	:
Value added at factor cost (EUR million)	1 184	498	832	248	51	50	676	1 251	13 878	30	:	331	:	:	:	2 135	:
Gross operating surplus (EUR million)	208	170	-256	22	7	0	219	221	6 091	6	:	73	:	:	:	353	:
Purchases of goods and services (EUR million)	3 777	1 730	1 496	467	96	183	1 610	2 387	18 353	104	:	569	:	:	:	5 033	:
Gross investment in tangible goods (EUR million)	84	73	124	25	8	11	35	105	1 423	8	:	41	:	:	:	141	:
Number of persons employed (thousands)	29	6	71	12	3	9	13	23	162	9	:	69	:	:	:	32	:
Personnel costs (EUR million)	977	328	1 087	226	44	50	463	1 031	7 787	24	:	258	:	:	:	1 782	:
App. labour productivity (EUR thous./pers. emp.)	40.6	77.7	11.7	20.6	15.2	5.6	51.6	54.0	85.4	3.3	:	4.8	:	:	:	66.9	:
Average personnel costs (EUR thous./employee)	34.8	51.7	15.9	19.0	13.2	5.6	35.8	46.3	48.5	2.7	:	3.8	:	:	:	55.9	:
Wage adjusted labour productivity (%)	116.9	150.3	73.7	108.4	114.8	99.9	144.2	116.7	176.3	122.3	:	127.3	:	:	:	119.6	:
Gross operating rate (%)	4.4	8.0	-11.1	3.3	5.0	0.0	9.7	6.1	18.5	4.9	:	8.7	:	:	:	5.1	:
Investment per person employed (EUR thousand)	2.9	11.4	1.8	2.1	2.3	1.2	2.7	4.5	8.8	0.9	:	0.6	:	:	:	4.4	:

(1) EU-25, 2001. (2) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Furniture and other manufacturing industries



13.1: FURNITURE

Furniture manufacturing (NACE Group 36.1) is made up of the following activities: the manufacture of chairs and seats (NACE Class 36.11), other office and shop furniture (NACE Class 36.12), other kitchen furniture (NACE Class 36.13), other furniture (NACE Class 36.14) and mattresses (NACE Class 36.15).

STRUCTURAL PROFILE

In 2002, furniture manufacturing (NACE Group 36.1) generated EUR 35.7 billion of value added in the EU-25, equivalent to 2.0 % of the industrial (NACE Sections C to E) total. There were 1.3 million persons employed in the EU-25's furniture manufacturing sector, which was a considerably higher share of the industrial workforce at 3.5 %.

NACE

36: manufacture of furniture; manufacturing n.e.c.;
 36.1: manufacture of furniture;
 36.2: manufacture of jewellery and related articles;
 36.3: manufacture of musical instruments;
 36.4: manufacture of sports goods;
 36.5: manufacture of games and toys;
 36.6: miscellaneous manufacturing n.e.c.

The EU's furniture industry draws on a variety of materials to manufacture its products, including wood, metal, leather, glass and synthetic materials. Increasingly the EU furniture industry has to rely on its design skills and high added value products in the face of competition from countries that are characterised by low labour costs. Most furniture can be disassembled and various parts can be re-used, recycled or incinerated. Indeed, the European Commission's Directorate-General for Enterprise estimates that between 30 % and 40 % of all furniture in the EU ends up in second-hand markets (in the EU or elsewhere) and is therefore re-used, extending the lifetime of these products ⁽¹⁾.

Germany made the largest contribution to EU-25 value added in the furniture manufacturing sector in 2002 with a 19.7 % share, followed by Italy (18.7 %), the United Kingdom (16.0 %) and France (10.7 %); none of the remaining Member States ⁽²⁾ accounted for a double-digit share of EU-25 value added. An analysis of employment shows a different structure, as Italy had the largest share (16.5 % of the EU-25 total) among the Member States ⁽³⁾, followed by Germany (14.2 %), Spain (11.2 %) and the United Kingdom (11.0 %), while Poland also accounted for more than one tenth of the EU-25's workforce (10.4 %).

⁽²⁾ Belgium and Latvia, 2001; Greece, not available.

⁽³⁾ Greece, not available.

⁽¹⁾ More information at: http://www.europa.eu.int/comm/enterprise/sectors_en.htm.

Table 13.1
Manufacture of furniture (NACE Group 36.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	Germany (19.7)	Estonia (293.1)	Italy (16.5)	Estonia (239.4)
2	Italy (18.7)	Cyprus (194.8)	Germany (14.2)	Malta (211.3)
3	United Kingdom (16.0)	Lithuania (186.0)	Spain (11.2)	Cyprus (172.6)

(1) Belgium and Latvia, 2001; Greece, not available.

(2) Belgium and Latvia, 2001; Greece and Ireland, not available.

(3) Greece, not available.

(4) Latvia, 2001; Greece and Ireland, not available.

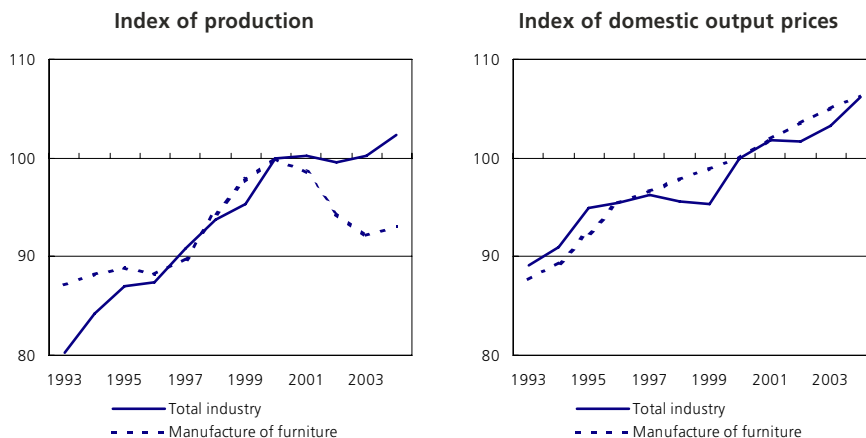
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 13.2
Production value of selected furniture (CPA Group 36.1), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Seats for aircraft and motor vehicles	36.11.11.10 and 36.11.11.30	10 779.4
Upholstered swivel seats with variable height adjustment, with backrest and fitted with castors or glides excl. medical, surgical, dental or veterinary seats - barbers' or similar chairs	36.11.11.55	1 425.5
Seats convertible into beds (excl. garden seats or camping equipment)	36.11.12.10	1 561.9
Office metal cupboards with doors, shutters or flaps, height >80cm (excl. exhibition stands, medical and surgical furniture, dental and veterinary furniture)	36.12.11.73	657.8
Wooden furniture of a kind used in offices; cupboards with doors, cabinets, height >80cm	36.12.12.50 and 36.12.12.70	2 243.4
Wooden bedroom furniture (excl. builders' fittings for cupboards to be built into walls, mattress supports, lamps and lighting fittings, floor standing mirrors, seats)	36.14.12.30	7 197.3
Wooden furniture for the dining-room and living-room (excl. floor standing mirrors, seats)	36.14.12.50	6 171.2
Mattress supports (incl. wooden or metal frames fitted with springs or steel wire mesh, upholstered mattress bases, with wooden slats, divans)	36.15.11.00	1 318.6

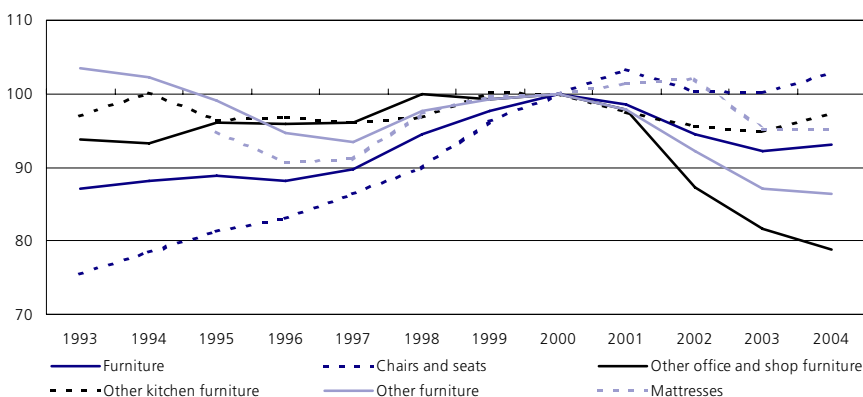
Source: Eurostat, PRODCOM

Figure 13.1
Manufacture of furniture (NACE Group 36.1)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 13.2
Manufacture of furniture (NACE Group 36.1)
Production index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The relative importance of the furniture manufacturing sector within the national industrial economies of the Member States was highest in Estonia in 2002, as furniture accounted for 5.9 % of industrial value added. Cyprus, Lithuania, Slovenia, Malta, Denmark and Latvia (2001) were also relatively specialised within this activity, as furniture accounted for more than 3.0 % of industrial value added in each of these Member States.

Annual short-term statistics show that the EU-25 production index for furniture manufacturing followed a similar path to that for total industry during the period 1996 to 2000, as output rose by an average of 3.2 % per annum, compared with 3.4 % for industry as a whole. However, while industrial output in the EU-25 stagnated through to 2003, the production index for furniture manufacturing saw output decline by 1.5 % in 2002 and by a further 4.1 % in 2003. There were some signs of a recovery in 2004 as furniture manufacturing output in the EU-25 rose by 1.0 %, although this rate was 1.2 percentage points below the average expansion for industry as a whole.

EU-25 domestic output prices for furniture manufacturing rose on an uninterrupted basis from 1993 to 2004, unlike the industrial average which recorded falls in 1998, 1999 and 2002. Prices rose on average by 1.8 % per annum over the period considered, compared with 1.6 % per annum for total industry.

PRODUCTIVITY AND PROFITABILITY

In 2002, apparent labour productivity was EUR 28 300 per person employed in the EU-25's furniture manufacturing sector, well below the industrial average (EUR 49 100). Average personnel costs per employee in the EU-25's furniture manufacturing sector were also relatively low for an industrial activity, at EUR 23 600. Among the Member States for which data are available ⁽⁴⁾, average personnel costs per employee were systematically lower for the manufacture of furniture than national industrial averages. Once adjusted for the share of employees in persons employed, the ratio of value added over personnel costs was 120.2 % for the EU-25's furniture manufacturing sector, some 20.1 percentage points below the manufacturing (NACE Section D) average. Among the Member States ⁽⁵⁾, the wage adjusted labour productivity ratio for the furniture manufacturing sector was systematically below national industrial averages, ranging from 10.4 percentage points difference in Slovenia to 70.3 percentage

⁽⁴⁾ Belgium and Latvia, 2001; Greece, Ireland and Cyprus, not available.

⁽⁵⁾ Belgium and Latvia, 2001; Estonia, Ireland and Cyprus, not available.

Table 13.3
Furniture (CPA Group 36.1)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Furniture	9 412	1.0	1.2	9 139	1.0	0.8	273	103.0
Chairs and seats	3 078	0.3	0.4	4 083	0.4	0.3	-1 006	75.4
Other office and shop furniture	736	0.1	0.1	246	0.0	0.0	490	299.6
Kitchen furniture	644	0.1	0.1	43	0.0	0.0	601	1 485.4
Other furniture	4 767	0.5	0.6	4 607	0.5	0.4	160	103.5
Mattresses	187	0.0	0.0	159	0.0	0.0	27	117.1

Source: Eurostat, Comext

points difference in Hungary; Poland was the only Member State to record a wage adjusted labour productivity ratio that was below 100 % in this sector.

The gross operating rate provides information on the ratio of the gross operating surplus to turnover, and this was 8.1 % for the manufacture of furniture in 2002 in the EU-25, some 1.9 percentage points below the EU-25's industrial average. There were only three Member States ⁽⁶⁾ - Latvia (2001), Malta and Austria - where the gross operating rate for the manufacture of furniture exceeded the national industrial average.

⁽⁶⁾ Belgium and Latvia, 2001; Estonia, Ireland and Cyprus, not available.

EXTERNAL TRADE

The EU-25 recorded a EUR 273 million trade surplus for furniture (CPA Group 36.1) for 2004, resulting from exports to non-Community countries of EUR 9.4 billion and imports of EUR 9.1 billion. Slightly more than half of the EU-25's exports and imports of furniture were composed of other furniture products (CPA Class 36.14) which gathers goods such as metal furniture not elsewhere classified, wooden furniture used in the bedroom, dining room and living room, plastic furniture, or furniture made of other materials including cane, osier, bamboo or similar materials. Chairs and seats (CPA Class 36.11) accounted for almost one third of the EU-25's furniture exports and for 44.7 % of EU-25 imports. There were no major changes observed in the structure of furniture imports and exports between 1999 and 2004.

About half (13) of the Member States recorded a trade deficit (intra- and extra-EU trade combined) for furniture products in 2004. A more detailed analysis shows that Italy dominated exports, accounting for 24.0 % of the exports made by EU-25 Member States, followed by Germany (15.7 %) and Poland (10.7 %). Germany was the largest importer of furniture in 2004, with over one fifth of the EU total (21.4 %), followed by the United Kingdom (17.6 %) and France (14.5 %).

13.2: MUSICAL INSTRUMENTS, SPORTS GOODS, TOYS AND GAMES, JEWELLERY

This subchapter covers the manufacture of: coins, medals and jewellery; musical instruments including string, wind and percussion instruments, as well as electronic instruments and juke boxes; sports goods for indoor and outdoor sports, as well as other physical pursuits (note that sportswear and sports vehicles are excluded); games and toys, including electronic games and scale-sized models, but excluding bicycles; miscellaneous goods, including imitation jewellery, brooms and brushes, umbrellas and lighters. These activities, which cover NACE Groups 36.2 to 36.6, are hereafter referred to collectively as the other manufacturing sector.

STRUCTURAL PROFILE

In 2002, the other manufacturing sector (NACE Groups 36.2 to 36.6) generated EUR 15.8 billion of value added in the EU-25, equivalent to 0.9 % of industrial (NACE Sections C to E) value added. With 518 600 persons employed in the EU-25 in 2002, this sector accounted for 1.5 % of the industrial workforce.

In more detail, the activity of miscellaneous manufacturing (NACE Group 36.6) was the largest of the five NACE groups covered within this subchapter, as it generated 42.9 % of sectoral value added in 2002, followed by the manufacture of jewellery and related articles (NACE Group 36.2) that accounted for one quarter (25.1 %) of the EU-25's value added. The larger of the two activities was relatively

labour intensive, as miscellaneous manufacturing accounted for 47.9 % of other manufacturing employment in 2002, while the manufacture of jewellery and related articles accounted for a similar share (25.2 %) to that recorded for value added.

Cyprus recorded the highest relative specialisation in jewellery manufacturing among the Member States ⁽⁷⁾, as this activity represented 1.1 % of Cypriot industrial value added in 2002 (the EU-25 average was 0.2 %). The Czech Republic was the most specialised Member State in terms of the manufacture of musical instruments ⁽⁸⁾, while Austria recorded

⁽⁷⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

⁽⁸⁾ Belgium and Cyprus, 2001; Estonia, Greece, Ireland, Latvia and Slovakia, not available.

Table 13.4

Manufacture of musical instruments, sports goods, toys and games, jewellery (NACE Groups 36.2 to 36.6)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Musical instruments, sports goods, toys and games, jewellery	15 750	0.9	519	1.4
Jewellery and related articles	3 954	0.2	131	0.4
Musical instruments	713	0.0	25	0.1
Sports goods	1 815	0.1	45	0.1
Games and toys	2 509	0.1	69	0.2
Miscellaneous manufacturing n.e.c.	6 759	0.4	248	0.7

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 13.5

Manufacture of musical instruments, sports goods, toys and games, jewellery (NACE Groups 36.2 to 36.6)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (1)	Share of EU-25 employment (%) (2)	Industrial employment specialisation (EU-25=100) (3)
1	United Kingdom (20.4)	Malta (442.0)	Italy (17.6)	Sweden (272.5)
2	Germany (19.9)	Austria (224.8)	Germany (15.1)	Malta (220.5)
3	Italy (17.2)	Cyprus (161.8)	United Kingdom (14.2)	Czech Republic (163.9)

(1) Belgium and Latvia, 2001; Greece and Ireland, not available.

(2) Greece and Ireland, not available.

(3) Latvia, 2001; Greece and Ireland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 13.6

Production value of selected musical instruments, sport goods, toys and games, jewellery (CPA Groups 36.2 to 36.6), EU-25, 2003 (EUR million)

	Prodcom code(s)	
Articles of jewellery and parts thereof of precious metal (incl. plated, clad)	36.22.13.30	3 590.8
Acoustic new upright and grand pianos (incl. automatic pianos)	36.30.11.10 and 36.30.11.30	172.6
Gymnasium or athletics articles and equipment	36.40.13.00	533.0
Electric trains (incl. tracks, signals and other accessories)	36.50.20.30	390.3
Toys put up in sets or outfits (excl. scale model assembly kits, construction sets and constructional toys, electric car racing sets)	36.50.33.30	210.1
Tooth brushes	36.62.12.10	333.1
Ball point pens with liquid ink (rolling ball pens) (excl. with body or cap of precious metal or rolled precious metal) and with replaceable refills	36.63.21.13 and 36.63.21.17	497.2
Umbrellas, sun umbrellas, walking-stick umbrellas, garden umbrellas and similar umbrellas (excl. umbrella cases)	36.63.31.30	774.5
Slide fasteners	36.63.33.50	508.9
Candles, tapers and the like (incl. night lights fitted with a float) (excl. anti-asthmatic candles, wax matches or vestas, sulphur-treated bands, wicks and candles)	36.63.75.00	997.0

Source: Eurostat, PRODCOM

the highest specialisation ratio for the manufacture of sport goods ⁽⁹⁾, and Malta for the manufacture of games and toys ⁽¹⁰⁾. For the largest activity, namely that of miscellaneous manufacturing, the Czech Republic and the United Kingdom were the most specialised Member States in 2002 ⁽¹¹⁾.

Annual short-term statistics for the EU-25's index of production are available for all but one of the NACE groups that compose this subchapter (no data for the manufacture of sport goods). There was a relatively fast reduction in the output of musical instruments, which fell on average by 6.4 % per annum between 2000 and 2004, while an even larger reduction was posted for the manufacture of jewellery and related articles over the same period (7.4 % per annum). Miscellaneous manufacturing also reported a reduction in activity between 2000 and 2004, although in 2003 output rose by 5.1 %, before remaining almost stable in 2004 (0.1 % growth). Having expanded at a relatively rapid pace in 2001 (up 6.3 %), the EU-25 index of production for games and toys manufacturing decreased gradually through to 2004. Domestic output prices rose for each of the NACE groups that are covered within other manufacturing ⁽¹²⁾, with prices rising on average by between 1.0 % and 1.7 % per annum.

⁽⁹⁾ Belgium, 2001; Greece, Ireland, Latvia, Luxembourg and Slovakia, not available.

⁽¹⁰⁾ Belgium, Latvia, Luxembourg and Sweden, 2001; Denmark, Estonia, Greece, Ireland and Cyprus, not available.

⁽¹¹⁾ Belgium, Denmark and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

⁽¹²⁾ Musical instruments (NACE Group 36.3), not available.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for the other manufacturing sector was EUR 30 400 per person employed in the EU-25 in 2002, which was EUR 18 700 per person employed less than for industry as a whole. Personnel costs per employee were lower for the other manufacturing sector than national industrial averages in each of the Member States for which data are available in 2002 ⁽¹³⁾. The wage adjusted labour productivity ratio for other manufacturing was below the national industrial average in the majority of the Member States ⁽¹⁴⁾, although this was not the case in Malta and Austria; in Luxembourg, Poland and Sweden, personnel costs (adjusted for the ratio of employees to persons employed) were not covered by value added within the other manufacturing sector in 2002. The EU-25's gross operating rate for other manufacturing was 10.9 % in 2002 and, as such, was slightly higher than that recorded for industry as a whole (10.0 %).

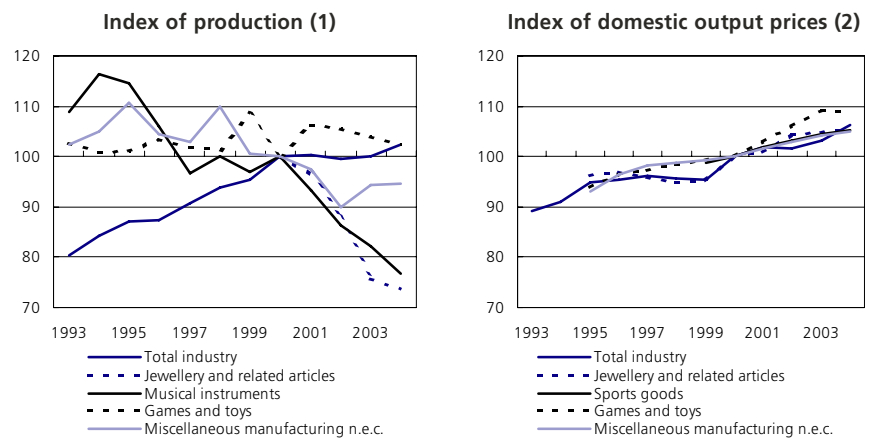
EXTERNAL TRADE

Some EUR 16.9 billion of other manufactured goods (CPA Groups 36.2 to 36.6) were exported from the EU-25 to non-Community countries in 2004, while imports of these goods were valued at EUR 24.4 billion, resulting in a EUR 7.5 billion trade deficit. Exports of other manufactured goods accounted for 1.9 % of EU-25 industrial exports, while imports of these goods represented 2.6 % of EU-25 industrial imports in 2004. Three Member States dominated the EU-25's export market for other manufactured goods, namely Italy, Germany and Belgium, each generating more than 17 % of the EU's exports (intra- and extra-EU trade combined) in 2004. The United Kingdom imported 19.3 % of the EU's imports of these goods, which was the largest share among the Member States, followed by Germany (15.3 %) and France (12.9 %).

⁽¹³⁾ Belgium and Latvia, 2001; Greece, Ireland and Cyprus, not available.

⁽¹⁴⁾ Belgium and Latvia, 2001; Greece, Ireland and Cyprus, not available.

Figure 13.3
Manufacture of musical instruments, sports goods, toys and games, jewellery
(NACE Groups 36.2 to 36.6)
Evolution of main indicators, EU-25 (2000=100)



(1) Sports goods (NACE Group 36.4), not available.

(2) Musical instruments (NACE Group 36.3), not available.

Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

A breakdown by product reveals that exports of jewellery and related articles (CPA Group 36.2) represented 62.0 % of EU-25 exports of other manufactured goods in 2004, a share that was slightly below that recorded five years earlier (64.5 %). The second most important export product group for other manufactured goods was for miscellaneous manufactured goods (CPA Group 36.6) that accounted for one fifth of EU-25 exports in 2004, up slightly on its 18.8 % share of 1999.

Table 13.7
Musical instruments, sports goods, toys and games, jewellery (NACE Groups 36.2 to 36.6)
External trade, EU-25, 2004

	Extra-EU exports (EUR million)	Share of EU industrial exports, 2004 (%)	Share of EU industrial exports, 1999 (%)	Extra-EU imports (EUR million)	Share of EU industrial imports, 2004 (%)	Share of EU industrial imports, 1999 (%)	Trade balance (EUR million)	Cover ratio (%)
Musical instruments, sports goods, toys and games, jewellery	16 870	1.9	2.3	24 399	2.6	2.9	-7 529	69.1
Jewellery and related articles	10 466	1.2	1.5	8 514	0.9	1.0	1 952	122.9
Musical instruments	444	0.0	0.1	821	0.1	0.1	-377	54.1
Sports goods	1 205	0.1	0.2	2 766	0.3	0.3	-1 561	43.6
Games and toys	1 385	0.2	0.2	6 956	0.7	0.9	-5 571	19.9
Miscellaneous manufactured goods n.e.c.	3 371	0.4	0.4	5 343	0.6	0.6	-1 972	63.1

Source: Eurostat, Comext

Table 13.8

Manufacture of furniture; manufacturing n.e.c. (NACE Division 36)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	163 715	4 585	2 525	3 985	29 825	320	:	13 042	20 439	:	37 584	182	168	279	95	835	158
Production (EUR million) (2)	152 886	4 144	2 455	3 893	28 407	303	:	12 784	18 891	:	36 550	143	178	279	56	706	159
Value added at factor cost (EUR million) (3)	51 381	1 070	763	1 520	10 153	95	:	4 344	5 867	:	9 391	66	78	85	14	206	68
Gross operating surplus (EUR million) (3)	14 592	341	337	475	1 811	28	:	1 246	1 201	:	3 903	19	49	25	-6	42	36
Purchases of goods and services (EUR million)	:	3 217	1 848	2 547	19 505	230	:	8 897	14 462	:	28 132	109	110	198	81	626	85
Gross investment in tangible goods (EUR million)	:	159	116	239	816	21	:	482	586	:	1 362	6	13	22	:	47	22
Number of persons employed (thousands)	1 776	26	81	30	258	13	:	174	165	:	299	3	11	17	1	38	4
Personnel costs (EUR million) (3)	36 789	728	424	1 044	8 343	66	:	3 098	4 667	:	5 488	47	31	60	20	164	32
App. labour productivity (EUR thous./pers. emp.) (3)	28.9	37.4	9.5	50.5	39.4	7.1	:	24.9	35.5	:	31.4	19.7	8.0	5.0	19.5	5.4	18.3
Average personnel costs (EUR thous./employee) (3)	23.7	30.1	6.4	36.0	34.2	5.0	:	19.9	30.7	:	24.1	:	3.2	3.6	29.1	5.2	12.5
Wage adjusted labour productivity (%) (3)	122.3	124.4	147.5	140.4	115.2	141.7	:	125.1	115.6	:	130.2	:	252.6	137.9	67.0	104.3	146.0
Gross operating rate (%) (3)	8.9	7.4	13.3	11.9	6.1	8.8	:	9.6	5.9	:	10.4	10.2	33.5	8.9	-6.2	5.0	22.6
Investment per person employed (EUR thousand)	:	6.1	1.4	7.9	3.2	1.6	:	2.8	3.5	:	4.6	1.7	1.1	1.3	:	1.2	5.9
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	4 881	4 771	4 832	2 563	713	619	1 718	4 106	23 865	156	:	965	:	:	:	1 541	3 930
Production (EUR million)	4 545	4 394	4 531	2 427	690	588	1 583	3 945	22 183	151	:	936	:	:	:	1 474	3 792
Value added at factor cost (EUR million)	1 682	2 099	1 370	802	212	106	604	1 222	8 910	40	:	312	:	:	:	576	1 484
Gross operating surplus (EUR million)	536	846	-5	253	36	34	183	-265	3 178	14	:	118	:	:	:	129	336
Purchases of goods and services (EUR million)	3 180	2 671	3 522	1 806	479	531	1 143	2 903	14 921	124	:	760	:	:	:	999	2 307
Gross investment in tangible goods (EUR million)	259	169	206	154	28	23	80	127	715	11	:	123	:	:	:	57	:
Number of persons employed (thousands)	40	49	171	62	17	15	16	56	213	22	:	117	:	:	:	11	26
Personnel costs (EUR million)	1 146	1 253	1 375	549	176	72	437	1 487	5 731	26	:	194	:	:	:	446	1 148
App. labour productivity (EUR thous./pers. emp.)	42.3	43.1	8.0	12.9	12.7	7.0	38.8	21.7	41.9	1.8	:	2.7	:	:	:	51.9	57.5
Average personnel costs (EUR thous./employee)	33.5	28.4	10.3	9.8	11.5	4.8	29.8	28.5	28.8	1.4	:	1.7	:	:	:	40.7	:
Wage adjusted labour productivity (%)	126.4	152.0	77.6	131.5	110.3	146.4	130.2	76.2	145.4	131.1	:	157.6	:	:	:	127.5	:
Gross operating rate (%)	11.0	17.7	-0.1	9.9	5.1	5.5	10.6	-6.5	13.3	8.9	:	12.2	:	:	:	8.4	8.6
Investment per person employed (EUR thousand)	6.5	3.5	1.2	2.5	1.7	1.5	5.2	2.2	3.4	0.5	:	1.1	:	:	:	5.1	:

(1) Bulgaria and Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Water supply, sewerage and waste management



14.1: WASTE MANAGEMENT AND RECYCLING

Waste management covers the collection and transportation of solid and other waste (apart from sewage) not intended for a further industrial use, as well as its treatment and final disposal for example by means of land-fill or incineration (with or without energy recovery), but not recycling or re-use. In NACE these activities are classified as the collection and treatment of waste other than sewage (NACE Class 90.02), while the collection and treatment of sewage is covered in Subchapter 14.2.

NACE characterises recycling as the processing of used or unused, sorted or unsorted, waste and scrap into secondary raw materials which can then be used by other sectors as an intermediate good - note that it does not extend to the production of new final products. Recycling, under this definition, therefore involves a number of treatment stages, such as sorting, crushing, mechanical reduction, stripping, separation and cleaning which may be followed by further treatments to prepare raw materials for use by other sectors. These activities are classified as the recycling of waste and scrap (NACE Division 37).

Note that the re-use of products (for example, when no real transformation process is required) is not considered as a distinct activity in NACE, and is covered by neither NACE Division 37 nor NACE Class 90.02.

The sixth environment action programme (EAP) is the framework for EU environmental policy until 2012: one of its main priorities concerns the sustainable management of natural resources and wastes. In the domain of waste, its objectives include to reduce the volume of waste and hazardous waste that is produced, as well as reducing the disposal of waste. The thematic strategy on the prevention and recycling of waste is one of seven strategies foreseen in the sixth EAP, and in 2003 the Commission released its communication 'Towards a thematic strategy on waste prevention and recycling' ⁽¹⁾. Since then, consultations on this document have taken place with various stakeholders with the objective of preparing the strategy itself. The main aims are to reduce, via a comprehensive and life-cycle based approach, the environmental impact of waste and waste treatment operations; this entails an enhanced focus on waste prevention.

The sixth EAP also foresees the revision of legislation in a number of specific areas important for the waste and recycling domain. The most notable legislative proposals that have been put forward, progressed or adopted during 2004 and 2005 include: the adoption of an amendment to the Packaging Directive ⁽²⁾; progress on a proposal for a new directive for the collection and recycling of batteries and accumulators ⁽³⁾; and progress on the 2003 proposal of the Commission for a directive on the management of waste from the extractive industries ⁽⁴⁾.

NACE

- 37: recycling;
- 37.1: recycling of metal waste and scrap;
- 37.2: recycling of non-metal waste and scrap;
- 41: collection, purification and distribution of water;
- 90: sewage and refuse disposal, sanitation and similar activities.

⁽¹⁾ COM(2003) 301.

⁽²⁾ Directive 2004/12/EC of the European Parliament and of the Council of 11 February 2004 amending Directive 94/62/EC on packaging and packaging waste.

⁽³⁾ COM(2003) 723 final.

⁽⁴⁾ COM(2003) 319.

Table 14.1
Treatment of municipal waste (thousand tonnes) (1)

	Year	Recovery			Disposal operations		
		Recycling	Composting	Incineration with energy recovery	Incineration without energy recovery	Landfill	of which: controlled
BE	2003	1 400	1 049	1 513	133	582	:
CZ	2003	15	67	399	2	2 049	2 049
DK	2003	928	553	1 955	:	181	181
DE	2002	17 250	7 844	153	11 673	11 266	:
EE	2003	22	1	0	0	371	:
EL	2003	382	0	:	:	4 328	2 424
ES	2002	3 811	3 914	1 567	:	14 723	14 723
FR	2002	4 715	4 208	10 235	875	12 991	12 991
IE	2002	463	34	:	:	1 967	1 967
IT	2002	3 897	7 335	2 587	111	18 500	18 500
CY	2003	:	:	:	:	467	467
LV	2003	62	35	23	0	579	:
LT	2003	:	:	:	:	909	:
LU	2001	1	40	121	:	58	58
HU	2002	67	47	288	:	3 907	3 761
MT	2003	:	:	:	:	218	:
NL	2003	2 184	2 289	3 192	:	261	261
AT	2000	1 129	1 818	481	:	1 578	1 578
PL	2003	145	129	:	42	9 609	9 609
PT (2)	2003	254	286	1 015	1 065	3 518	3 176
SI	2002	87	11	5	0	699	699
SK (3)	2002	37	39	91	65	1 192	:
FI	2002	659	:	201	0	1 512	1 512
SE	2002	1 295	354	1 675	:	825	:
UK	2002	3 733	1 423	2 674	7	27 545	:

(1) Municipal waste includes waste originating from households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings), as well as selected municipal services (park and garden maintenance, street cleaning services) if managed as waste.

(2) Incinerated without energy recovery, 2001.

(3) Total landfill, Eurostat estimate.

Source: Eurostat, Environment and energy, Environment, Waste

Table 14.2
Paper, paperboard and paper products - waste (thousand tonnes)

	Year	Generated (1)	Collected	
			for recycling (2)	Recycled in country
BE	:	:	:	:
CZ	2003	171	:	28
DK	2002	:	752	396
DE	2003	18 517	13 643	12 449
EE	2003	3	39	13
EL	:	:	:	:
ES	2002	3 501	3 617	:
FR	2002	:	5 588	5 705
IE	:	:	:	:
IT	2002	:	4 938	5 195
CY	2003	140	7	:
LV	2003	13	33	33
LT	2003	:	58	107
LU	2002	:	67	:
HU	:	:	:	:
MT	2003	2 238	:	:
NL	2003	2 897	1 798	:
AT	:	:	:	:
PL	2003	:	45	:
PT	:	:	:	:
SI	:	:	:	:
SK	2002	298	154	283
FI	2001	:	739	713
SE	2002	:	645	:
UK	2002	12 907	5 553	4 610

(1) Latvia and the United Kingdom, 2001; Spain and Slovakia, 2000.

(2) Slovakia and the United Kingdom, 2001.

Source: Eurostat, Environment and energy, Environment, Waste

WASTE RECOVERY AND DISPOSAL

Data from Eurostat's environmental statistics database on waste provides information on the volume of waste treatment, recovery and disposal (see Table 14.1 concerning municipal waste). In this context, the term 'waste' refers to materials that are not prime products (destined for the market), for which the generator has no further own use and which are discarded. This definition excludes residuals directly recycled or reused at the place of generation (for example internally within an enterprise) and waste materials that are directly discharged into ambient water or air. Waste management operations can be considered as recovery or disposal. Recovery is defined as any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit.

Recovery includes material, energy and biological recovery, and as such includes recycling, although as noted above the economic activity of recycling is separate from waste management in NACE. Disposal is defined as any waste management operation serving or carrying out the final treatment and/or disposal of waste. Waste management and recycling are closely related activities. The basis for the classification of enterprises depends on the economic value of the output: if it is marginal compared to costs involved, the main activity is waste treatment, while if most of the revenues comes from the selling of recycled material the main activity is recycling. Substantial waste collection, treatment and recycling activities are carried out by enterprises without the involvement of the 'collective' system.

Tables 14.2 to 14.5 provide information on waste generation, collection for recycling, and recycling of a number of materials. Note that waste collected for recycling may be exported for recycling, and waste recycled may have been collected in the country or imported for recycling.

Table 14.3

Glass (excluding refillable bottles in circulation) - waste (thousand tonnes)

Year	Generated (1)	Collected	
		for recycling (2)	Recycled in country
BE	:	:	:
CZ	2003	115	129
DK	2002	:	135
DE (3)	2000	4 147	3 530
EE	2003	1	16
EL	:	:	:
ES	2002	1 438	553
FR	2002	:	1 850
IE	:	:	:
IT	2001	:	1 100
CY	2003	6	1
LV	2003	2	6
LT	2003	:	24
LU	2002	:	25
HU	:	:	:
MT	2003	0	:
NL	2003	617	451
AT	:	:	:
PL	2003	:	60
PT	:	:	:
SI	:	:	:
SK	2002	:	22
FI	:	:	:
SE	:	:	:
UK	2001	2 200	799

(1) Latvia, 2001; Spain, 2000.

(2) Slovakia, 2001.

(3) Estimates.

Source: Eurostat, Environment and energy, Environment, Waste

Table 14.4

Ferrous metals - waste (thousand tonnes)

Year	Generated (1)	Collected for recycling	Recycled in country
CZ	2003	1 658	1 035
DK	2003	:	857
DE	2002	18 959	18 959
EE	2003	37	425
EL	:	:	:
ES	2002	512	:
FR	2002	:	12 002
IE	:	:	:
IT	:	:	:
CY	2003	:	34
LV	2003	4	28
LT	2003	:	580
LU	2002	:	197
HU	:	:	:
MT	2003	25	:
NL	2003	1 037	859
AT	:	:	:
PL	:	:	:
PT	:	:	:
SI	:	:	:
SK	2002	:	921
FI	:	:	:
SE	:	:	:
UK	:	:	:

(1) Latvia, 2001.

Source: Eurostat, Environment and energy, Environment, Waste

Table 14.5

Plastics - waste (thousand tonnes)

Year	Generated (1)	Collected for recycling	Recycled in country (2)
CZ	2003	113	22
DK	2002	:	51
DE	2001	3 845	2 242
EE	2003	2	7
EL	:	:	:
ES	2002	2 394	332
FR	:	:	:
IE	:	:	:
IT	:	:	:
CY	2003	58	2
LV	2003	1	8
LT	2003	:	8
LU	2002	:	11
HU	:	:	:
MT	:	:	:
NL	2003	755	179
AT	:	:	:
PL	:	:	:
PT	:	:	:
SI	:	:	:
SK	2000	148	:
FI	:	:	:
SE	:	:	:
UK	2001	4 680	295

(1) Latvia, 2001.

(2) Spain, 2000.

Source: Eurostat, Environment and energy, Environment, Waste

Table 14.6

**Recycling (NACE Division 37)
Structural profile, EU-25, 2002**

	Value added (EUR million)	Share of industrial value added (%)	Number of persons employed (thousands)	Share of industrial employment (%)
Recycling	4 909	0.3	111	0.3
Recycling of metal waste and scrap	2 442	0.1	53	0.1
Recycling of non-metal waste and scrap	2 471	0.1	58	0.2

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

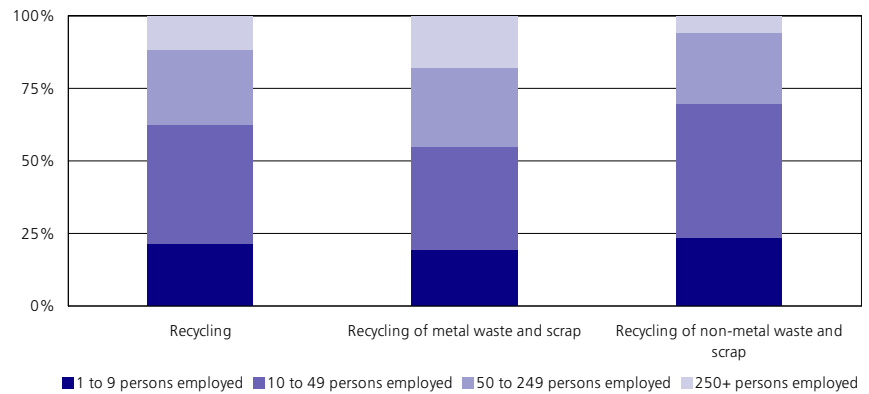
STRUCTURAL PROFILE

The rest of this subchapter concerns the recycling activity (NACE Division 37). In 2002, this sector generated a value added of EUR 4.9 billion and employed 110 800 persons in the EU-25. This was equivalent to 0.3 % of industrial (NACE Sections C to E) value added and employment - see Table 14.6. Recycling was by far the smallest manufacturing NACE division in the EU-25 in value added terms and was only larger than the manufacture of tobacco and tobacco products (NACE Division 16) in terms of employment.

In the EU-25 the recycling sector was almost equally split between the recycling of metal waste and scrap (NACE Group 37.1) and non-metal waste and scrap (NACE Group 37.2) in both value added and employment terms in 2002. The recycling of metal waste and scrap was slightly smaller, responsible for 49.7 % of sectoral value added and 47.8 % of employment.

France reported the largest contribution to the EU-25's value added in the recycling sector, with a 24.7 % share in 2002. Germany and the United Kingdom were the next largest Member States in this sector, each with approximately

**Figure 14.1
Recycling (NACE Division 37)
Share of value added by enterprise size class, EU-25, 2001**



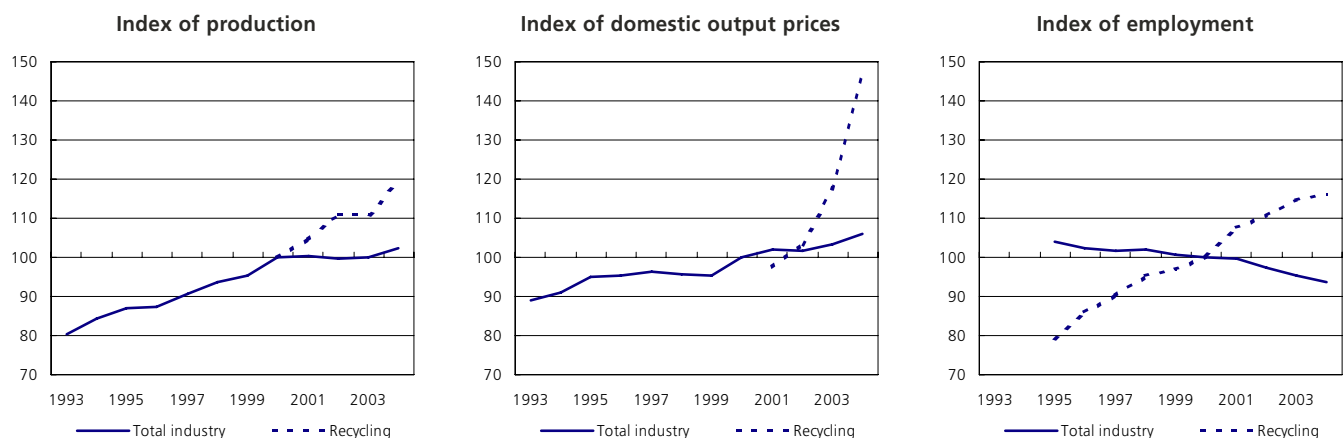
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

19 % of the EU-25 total, followed by Italy (12.3 %). Combined, the four largest Member States accounted for 74.8 % of EU-25 recycling value added, 7.0 percentage points higher than their share of all manufacturing (NACE Section D) value added. Luxembourg and France had the highest industrial value added specialisation⁽⁵⁾ in recycling, as this sector contributed 0.5 % or more of industrial value

added in 2002, while the Czech Republic, Lithuania and Slovenia were also relatively highly specialised in recycling according to this measure. In four of these Member States (Luxembourg, not available), the recycling of metal waste and scrap subsector was the larger, most notably in Slovenia and Lithuania where it accounted for approximately 90 % and 85 % respectively of recycling value added.

⁽⁵⁾ Belgium, Ireland and Latvia, 2001; Denmark and Greece, not available.

**Figure 14.2
Recycling (NACE Division 37)
Evolution of main indicators, EU-25 (2000=100)**



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Micro and small enterprises (with less than 50 persons employed) accounted for 62.6 % of the value added generated in the EU-25's recycling sector in 2001, the highest share of any manufacturing NACE division. Small enterprises (with 10 to 49 persons employed) were particularly important in this sector, as their 41.0 % contribution to recycling value added was not just the largest of any manufacturing NACE division, but of all the non-financial business economy (NACE Sections C to I and K) divisions. Equally, the 11.5 % share of value added accounted for by large enterprises (with 250 or more persons employed) in the recycling sector was the smallest of any non-financial business economy NACE division. The size class structure of the two recycling subsectors was quite similar in 2001, in that both displayed the dominance of micro and small enterprises. Nevertheless, this was even more pronounced in the recycling of non-metal waste and scrap where enterprises in these two size classes generated 69.6 % of the subsector's value added, compared with 54.9 % for the recycling of metal waste and scrap - see Figure 14.1. While the importance of medium-sized enterprises was comparable in the two subsectors, large enterprises contributed just 5.8 % of value added in the recycling of non-metal waste and scrap compared with 17.8 % for the recycling of metal waste and scrap.

The index of production for recycling for the EU-25 is only available since 2000. Nevertheless, this short time series shows that output for this branch grew in three of the last four years, contracting only in 2002. In this respect it followed the same growth pattern as for industry as a whole, albeit with much stronger growth rates in the years that it expanded. Over the period 2000 to 2004 the recycling branch saw its output expand at an annual average rate of 4.5 %, compared with the industrial average of 0.6 %. The third part of Figure 14.2 shows a longer time series for employment, with strong growth for the recycling employment index, in contrast to the overall decline in the industrial employment index over the years shown. The recycling employment index grew on average by 4.4 % per annum between 1995 and 2004, while the industrial employment index averaged a decline of 1.2 % per annum over the same period.

EMPLOYMENT CHARACTERISTICS

With respect to the importance of full-time employment, the recycling sector's workforce was similar to that of the industrial workforce as a whole. In 2004 persons in full-time employment represented 91.6 % of the EU-25's recycling workforce, compared with an industrial average of 92.7 %. However, the gender structure of the workforce was quite different, with male employment reaching 80.3 % of the total in recycling, compared with an industrial average of 71.0 %.

PRODUCTIVITY AND PROFITABILITY

In 2002, the apparent labour productivity of the recycling sector was EUR 44 300 per person employed in the EU-25 and, as such, was EUR 4 800 lower than the industrial average. However, average personnel costs (EUR 26 600 per employee) were much lower than the industrial average (EUR 32 700). Due to these particularly low average personnel costs, the wage adjusted labour productivity ratio was high in the EU-25's recycling sector, at 166.4 % compared with an industrial average of 149.8 %. There was little difference in wage adjusted labour productivity ratios between the two subsectors, as the recycling of metal waste and scrap recorded a ratio of 169.1 %, compared with 164.2 % for the recycling of non-metal waste and scrap. The wage adjusted labour productivity ratio in the recycling sector was close to or above the industrial average in all of the Member States except Hungary, Poland and Latvia, and in the first two of these not only was it below the industrial average but it was also below 100 %, indicating that average personnel costs were higher than apparent labour productivity.

The gross operating rate, calculated as the ratio of the gross operating surplus (value added minus personnel costs) to turnover was 10.5 % for the EU-25's recycling sector in 2002, marginally above the industrial average of 10.0 %. The gross operating rate in the recycling sector was negative in Hungary in 2002, indicating that personnel costs exceeded value added, thus resulting in a negative gross operating surplus. The gross operating rate in the recycling sector was low in Poland and Latvia ⁽⁶⁾ in both of these countries the gross operating rate in the recycling sector was less than one third of the average for the industrial economy.

⁽⁶⁾ Belgium and Latvia, 2001; Denmark, Greece and Ireland, not available.

14.2: WATER SUPPLY AND SEWERAGE

This subchapter describes the activities involved in water supply and sewerage. The former provides for the collection, purification, desalination and distribution of water (NACE Division 41) and is treated in NACE separately from the collection and treatment of sewage, which are found within NACE Class 90.01. It should be noted that considerable amounts of water used in production processes do not come from the water supply system, but rather are abstracted directly for own use. Similarly, some enterprises have their own wastewater treatment facilities.

Table 14.7
Public water supply (PWS)
(million m³ per year)

	Latest year	Total PWS	of which, households to PWS (%)	Proportion of connected to PWS (%)
BE	2002	:	:	96.4
CZ	2002	545	343	89.8
DK	2002	380	240	97.0
DE (1)	2001	4 774	3 779	99.1
EE	2002	71	:	72.0
EL	:	:	:	:
ES	2002	4 339	2 625	:
FR (1)	2001	5 685	3 414	99.4
IE	2002	:	:	90.0
IT	:	:	:	:
CY	2003	:	:	100.0
LV (1)	2003	322	69	:
LT (1)	2002	45	43	76.0
LU	:	:	:	:
HU	2002	:	381	93.0
MT	:	:	:	:
NL	2002	1 257	709	99.9
AT	2002	:	356	89.6
PL	2003	1 657	1 269	85.2
PT	:	:	:	:
SI	2002	123	89	90.6
SK	2003	378	:	84.0
FI	:	:	:	:
SE	2002	708	526	:
UK	2002	6 312	:	:

(1) Households includes all public water supply other than to agriculture, forestry, fishing, industry and construction.

Source: Eurostat, Environment and energy, Environment, Water

Table 14.8
Proportion of the population connected to urban waste water systems (%)

	Latest year	Urban waste water collecting system			Urban waste water treatment		
		Total	Without treatment	With treatment	Primary treatment	Secondary treatment	Tertiary treatment
BE		:	:	:	:	:	:
CZ	2002	80	8	72	:	:	:
DK		:	:	:	:	:	:
DE	2001	95	2	93	0	5	88
EE	2002	72	1	71	1	24	46
EL		:	:	:	:	:	:
ES	2002	100	11	89	1	62	26
FR	2001	82	2	79	2	51	27
IE	2001	93	23	70	41	21	8
IT		:	:	:	:	:	:
CY	2000	35	0	35	0	0	35
LV	2003	:	:	72	2	35	33
LT	2003	73	11	62	32	7	21
LU	2003	:	5	95	7	66	22
HU	2002	62	5	57	22	25	11
MT	2001	100	87	13	:	:	:
NL	2002	99	0	99	0	14	85
AT	2002	86	0	86	0	:	:
PL	2003	:	:	58	3	25	31
PT		:	:	:	:	:	:
SI	2002	63	:	33	10	18	5
SK	2003	55	3	52	:	:	:
FI	2002	81	:	81	:	:	81
SE	2002	85	:	85	:	5	80
UK (1)	2002	98	0	98	1	60	39

(1) England and Wales only.

Source: Eurostat, Environment and energy, Environment, Water

The organisation of water supply and wastewater treatment within the EU varies between countries, with State-owned, private and mutual enterprises, as well as municipalities involved in terms of the ownership or operation of infrastructure. The two activities are strongly related, with many enterprises providing both water supply and wastewater services, where sometimes the fees paid by users for water supply includes the service of treatment of the resulting wastewater. Among the key issues that affect this sector are pricing and the metering of water use, and the EU water framework Directive⁽⁷⁾ requires the implementation by 2010 of water-pricing policies that provide incentives for the efficient use of water resources, and to include a contribution by users to the recovery of the costs of water services based on the polluter pays principle, integrating environmental and resource costs.

PUBLIC WATER SUPPLY AND URBAN WASTE WATER TREATMENT

Table 14.7 shows the volume of public water supply (PWS), with information on the proportion supplied to households and the extent of their connection to the PWS network. Although the data set is incomplete, in all Member States with data available, the proportion of households connected to the PWS was close to or in excess of three-quarters, and in many Member States the proportion exceeded 90 %. In most Member States the majority of the population was connected to the urban wastewater collecting system and most wastewater was treated after collection - see Table 14.8. Table 14.9 provides information on the infrastructure and volume of output from urban wastewater treatment.

⁽⁷⁾ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for Community action in the field of water policy.

Table 14.9

Latest year	Number of plants	1000 kg O ₂ /day (1)		Sludge production (dry solids: million kg) (2)
		Design capacity	Actual occupation	
BE	:	:	:	:
CZ	2002	1 234	817	211
DK	:	:	:	:
DE	2001	10 188	9 434	2 429
EE	2002	439	:	:
EL	:	:	:	:
ES	2002	:	2 838	854
FR	2001	:	5 133	954
IE	2001	:	:	38
IT	:	:	:	:
CY	2000	30	:	:
LV	2003	708	157	29
LT	2003	436	397	242
LU	2003	270	61	13
HU	2002	555	707	117
MT	:	:	:	:
NL	2002	380	1 366	365
AT	2002	1 495	1 205	323
PL	2003	2 761	2 528	447
PT	:	:	:	:
SI	2003	146	65	7
SK	2003	384	525	98
FI	2001	:	415	160
SE	2002	1 274	:	242
UK (3)	2002	7 331	:	1 544

(1) Quantity of biological oxygen-demanding material.

(2) Slovenia and Slovakia, 2002; Lithuania, 2001; Spain and Finland 2000.

(3) Plants, capacity and occupation, excluding Scotland.

Source: Eurostat, Environment and energy, Environment, Water

STRUCTURAL PROFILE

The rest of this subchapter concerns the water supply activity (NACE Division 41). In 2002 the EU-25's water supply sector (NACE Division 41) generated an estimated EUR 19.7 billion of value added and employed 324 300 persons. As such, this activity accounted for 11.9 % of value added and 21.4 % of employment in the electricity, gas and water supply sector (NACE Section E) and 1.2 % of value added and 0.9 % of employment in the industrial economy (NACE Sections C to E). In value added terms, the water supply sector was dominated by the United Kingdom and Germany, with 24.8 % and 23.4 % shares of the EU-25's value added in 2002 - see Table 14.10. The water supply sector was relatively important in Cyprus (2001), Lithuania, Estonia, Slovakia and Poland⁽⁸⁾, where this sector contributed more than 2 % to industrial value added, between 1.7 and 2.5 times the share for the EU-25 as a whole.

In contrast to the small and micro enterprises that dominated the recycling sector, the water supply sector in the EU-25 was dominated by large enterprises (with 250 or more persons employed) - see Figure 14.3. In 2001 these enterprises contributed 65.3 % of value added in the water supply sector, a larger share than the industrial average (57.2 %). An analysis of the size class breakdown shows a fairly similar pattern among Member States, with large enterprises accounting for at least 50 % of the water supply sector's value added except in Denmark, although data availability means that this analysis is only possible for 11 Member States in either 2001 or 2002.

⁽⁸⁾ Belgium, Cyprus and Latvia, 2001; Greece, Ireland and Malta, not available.

Table 14.10

Collection, purification and distribution of water (NACE Division 41)

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (24.8)	Cyprus (310.0)	Poland (14.9)	Slovakia (344.1)
2	Germany (23.4)	Lithuania (252.6)	Germany (12.8)	Lithuania (260.3)
3	France (11.7)	Estonia (230.2)	United Kingdom (12.1)	Hungary (260.1)

(1) Belgium, Cyprus and Latvia, 2001; Greece and Malta, not available.

(2) Belgium, Cyprus and Latvia, 2001; Greece, Ireland and Malta, not available.

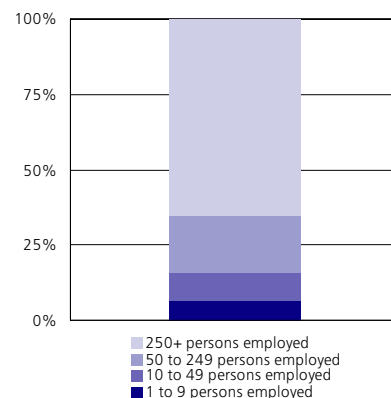
(3) Cyprus and Latvia, 2001; Greece and Malta, not available.

(4) Cyprus and Latvia, 2001; Greece, Ireland and Malta, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 14.3

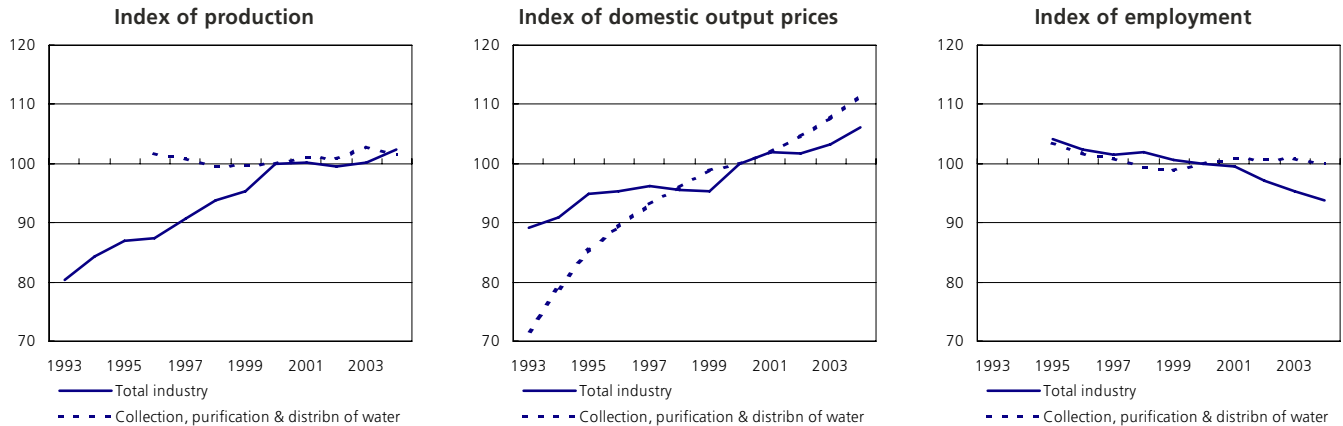
Collection, purification and distribution of water (NACE Division 41) Share of value added by enterprise size



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Figure 14.4

Collection, purification and distribution of water (NACE Division 41)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The first part of Figure 14.4 shows the production index for water supply in the EU-25. In comparison with the industrial production index it can be seen that water supply output was very stable from 1996 to 2004, and did not reflect strongly the overall business cycle. The domestic output price index for water supply however grew each and every year from 1995 to 2004, while the overall industrial output price index fell on three occasions during the same period - see the second part of Figure 14.4. The annual average growth rate of domestic output prices in water supply was 3.0 % over this period, while for industry as a whole it was 1.2 %.

Between 1995 and 1999 the employment index for water supply fell in a similar manner to that for industry as a whole. However, in 2000 and 2001 it grew by around 1 % in each year and then stabilised, before it fell by 0.7 % in 2004. In contrast, over the same period the industrial employment index continued its pattern of annual net job losses.

EMPLOYMENT CHARACTERISTICS

The water supply sector's labour force was characterised by a higher proportion of male employment (78.3 %) than the industrial average (71.0 %) in 2004. Full-time employment was 96.3 % in the EU-25, some 3.6 percentage points above the industrial average, and higher than all industrial NACE divisions outside of mining and quarrying and equal with the manufacture of motor vehicles, trailers and semi-trailers (NACE Division 34). The above average incidence of male, full-time employment in the water supply sector was common across the Member States, as only Greece and Latvia (2003) recorded a rate of full-

time employment in this sector below their industrial averages and only the United Kingdom recorded a marginally lower rate of male employment. Although the information on the age structure of the water supply labour force is not very complete, it can be noted that the proportion of older workers, aged 50 or more, was several percentage points higher in the water supply sector (27.1 %) than the industrial average (21.6 %). Again, although this data is only available for 10 of the Member States, this higher proportion of older workers was a common feature, as only the United Kingdom showed a different pattern.

PRODUCTIVITY AND PROFITABILITY

The EU-25's water supply sector recorded apparent labour productivity of EUR 60 800 per person employed in 2002, well above the industrial average of EUR 49 100, and reflects at least in part the capital intensive nature of this activity. Average personnel costs in 2001 were EUR 26 600 per employee, below the industrial average of EUR 32 700 per employee (2002). The resulting wage adjusted labour productivity ratio in 2001 was 215.3 %, indicating that value added per person employed was more than double the average cost of personnel. This was much higher than the industrial average of 149.8 % in 2002, and higher than the level recorded for the majority of the NACE divisions within the non-financial business economy (NACE Sections C to I and K). Particularly high wage adjusted labour productivity ratios were recorded in Latvia (2001), Germany, the United Kingdom, Finland and Austria where this indicator for the water supply sector was at least twice as high as the national industrial average ⁽⁹⁾.

⁽⁹⁾ Belgium and Latvia, 2001; Greece, Ireland, Cyprus and Malta, not available.

The gross operating rate, one measure of profitability, was 27.2 % in the EU-25's water supply sector in 2002, which was 2.7 times as high as the industrial average. This was the second highest gross operating rate of all industrial NACE divisions, and lower only than the 49.8 % (2001) rate for the extraction of crude petroleum and natural gas (NACE Division 11). The gross operating rate of the water supply sector was close to or above the industrial average in 2002 in every Member State ⁽¹⁰⁾ except for Slovenia, where this rate was at its lowest at just 2.1 %, while the Slovenian industrial average was 5.3 %.

⁽¹⁰⁾ Belgium, Cyprus and Latvia, 2001; Greece, Ireland and Malta, not available.

Table 14.11
Recycling (NACE Division 37)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	21 134	1 510	460	:	3 732	29	:	663 5 118	68 2 631	14	21	60	33	215	8		
Production (EUR million) (2)	16 925	1 362	428	:	3 319	13	:	661 4 263	65 2 583	11	21	60	33	77	8		
Value added at factor cost (EUR million) (3)	4 909	237	94	:	919	4	:	166 1 210	21 605	3	3	8	14	11	3		
Gross operating surplus (EUR million) (3)	2 228	125	53	:	371	2	:	78 399	12 354	1	2	4	5	-2	2		
Purchases of goods and services (EUR million)	:	1 216	383	:	2 809	26	:	506 3 882	47 2 076	11	19	53	18	200	4		
Gross investment in tangible goods (EUR million)	:	74	17	:	148	1	:	27 314	5 155	0	1	3	:	7	0		
Number of persons employed (thousands)	111	4	6	:	16	0	:	3 27	0 13	0	0	1	0	2	0		
Personnel costs (EUR million) (3)	2 681	112	41	:	548	1	:	88 811	8 252	1	1	4	9	13	1		
App. labour productivity (EUR thous./pers. emp.) (3)	44.3	62.2	14.7	:	58.6	11.9	:	49.4 44.8	71.0 45.5	24.7	6.9	6.1	60.5	4.7	35.7		
Average personnel costs (EUR thous./employee) (3)	26.6	32.1	7.8	:	36.4	4.2	:	26.7 31.2	29.4 25.0	:	2.7	3.3	39.7	6.9	11.6		
Wage adjusted labour productivity (%) (3)	166.4	193.5	187.6	:	161.1	283.8	:	184.7 143.7	241.6 181.8	:	255.4	186.0	152.3	67.8	307.3		
Gross operating rate (%) (3)	10.5	8.7	11.4	:	9.9	8.2	:	11.8 7.8	18.1 13.4	9.5	9.4	6.2	15.6	-0.7	22.8		
Investment per person employed (EUR thousand)	:	19.7	2.6	:	9.4	3.1	:	8.1 11.6	15.9 11.6	3.6	1.9	2.4	:	3.0	2.6		
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	927	221	662	215	80	34	109	552 3 537	29	:	307	:	:	:	298	870	
Production (EUR million)	869	207	430	205	74	26	89	547 3 287	28	:	225	:	:	:	300	863	
Value added at factor cost (EUR million)	234	65	120	42	19	12	27	98 937	1	:	41	:	:	:	74	273	
Gross operating surplus (EUR million)	126	30	10	21	6	8	15	39 529	1	:	23	:	:	:	27	89	
Purchases of goods and services (EUR million)	692	159	550	172	56	21	87	460 2 597	26	:	276	:	:	:	228	587	
Gross investment in tangible goods (EUR million)	89	18	27	15	9	2	11	33 209	2	:	18	:	:	:	21	:	
Number of persons employed (thousands)	3	1	9	1	1	1	0	2 18	0	:	9	:	:	:	1	4	
Personnel costs (EUR million)	108	35	110	21	13	4	12	58 408	0	:	19	:	:	:	47	184	
App. labour productivity (EUR thous./pers. emp.)	72.3	62.5	13.9	28.1	22.0	18.9	70.6	59.1 53.3	4.0	:	4.6	:	:	:	82.4	76.1	
Average personnel costs (EUR thous./employee)	33.3	35.8	15.4	14.3	15.8	6.9	32.1	36.7 25.1	1.2	:	2.2	:	:	:	52.9	:	
Wage adjusted labour productivity (%)	217.3	174.6	90.2	195.5	139.4	274.4	220.2	160.8 212.0	340.2	:	210.5	:	:	:	156.0	:	
Gross operating rate (%)	13.6	13.7	1.5	9.7	6.9	23.5	13.8	7.1 15.0	3.2	:	7.4	:	:	:	9.1	10.3	
Investment per person employed (EUR thousand)	27.5	17.0	3.1	10.0	10.2	2.9	29.2	19.8 11.9	4.8	:	2.0	:	:	:	23.9	:	

(1) Ireland, Bulgaria and Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 14.12
Collection, purification and distribution of water (NACE Division 41)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	39 260	1 174	788	414	7 902	62	:	3 157 10 140	0 2 739	71	9	94	28	542	:		
Production (EUR million) (2)	39 722	1 224	798	426	8 050	62	:	3 301 10 394	0 2 964	75	10	99	22	528	:		
Value added at factor cost (EUR million) (3)	19 705	599	336	162	4 611	36	:	1 527 2 303	0 1 238	37	29	58	17	270	:		
Gross operating surplus (EUR million) (3)	10 662	225	146	73	2 964	24	:	698 671	0 454	29	26	24	7	76	:		
Purchases of goods and services (EUR million)	:	569	450	264	3 131	22	:	1 924 7 857	0 1 599	39	4	35	11	303	:		
Gross investment in tangible goods (EUR million)	:	116	186	65	2 536	21	:	563 369	0 425	1	23	46	:	90	:		
Number of persons employed (thousands)	324	7	22	3	41	2	:	26 35	0 19	0	1	7	0	23	:		
Personnel costs (EUR million) (3)	9 043	374	190	89	1 647	12	:	829 1 632	0 785	9	3	34	10	194	:		
App. labour productivity (EUR thous./pers. emp.) (3)	60.8	78.8	15.5	49.3	111.3	19.5	:	59.0 66.4	:	63.8 109.7	37.3	8.7	156.0	12.0	:		
Average personnel costs (EUR thous./employee) (4)	26.6	49.3	8.9	29.0	39.8	6.8	:	32.6 47.0	:	42.5	:	4.3	5.1	92.3	8.7	:	
Wage adjusted labour productivity (%) (4)	215.3	159.6	174.3	170.1	279.9	287.0	:	181.3 141.1	:	150.0	:	867.8	171.2	169.0	137.6	:	
Gross operating rate (%) (3)	27.2	19.1	18.5	17.7	37.5	38.2	:	22.1 6.6	:	16.6	41.0	299.8	25.8	24.6	14.0	:	
Investment per person employed (EUR thousand)	:	16.1	8.6	19.8	61.2	11.2	:	21.8 10.6	:	21.9	4.0	29.6	6.9	4.0	:		
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	1 612	461	1 563	670	203	209	430	188 6 544	193	:	384	:	:	:	:		
Production (EUR million)	1 661	482	1 611	668	215	222	453	200 6 757	193	:	404	:	:	:	:		
Value added at factor cost (EUR million)	921	344	1 036	393	71	124	311	110 4 897	90	:	182	:	:	:	:		
Gross operating surplus (EUR million)	591	238	223	172	4	44	229	69 3 618	30	:	48	:	:	:	:		
Purchases of goods and services (EUR million)	596	133	548	321	102	95	145	90 2 183	111	:	231	:	:	:	:		
Gross investment in tangible goods (EUR million) (5)	353	64	257	478	87	82	47	63 3 136	20	:	242	:	:	:	:		
Number of persons employed (thousands)	6	3	48	12	4	15	2	1 39	18	:	51	:	:	:	:		
Personnel costs (EUR million)	330	106	813	221	67	79	81	41 1 279	60	:	134	:	:	:	:		
App. labour productivity (EUR thous./pers. emp.)	146.5	137.4	21.4	32.0	16.9	8.5	138.8	115.0 124.5	4.8	:	3.6	:	:	:	:		
Average personnel costs (EUR thous./employee)	52.5	42.9	17.2	18.0	15.9	5.5	36.5	46.4 32.5	3.2	:	2.7	:	:	:	:		
Wage adjusted labour productivity (%)	279.3	320.2	124.2	177.3	106.3	155.9	380.4	247.8 382.8	149.9	:	132.3	:	:	:	:		
Gross operating rate (%)	36.7	51.6	14.2	25.6	2.1	21.3	53.3	36.8 55.3	15.5	:	12.5	:	:	:	:		
Investment per person employed (EUR thousand) (5)	50.8	25.5	5.3	38.9	20.5	5.6	20.9	65.3 79.7	1.1	:	4.7	:	:	:	:		

(1) Cyprus and Latvia, 2001. (2) EU-25, 2001. (3) Belgium, 2001. (4) EU-25 and Belgium, 2001. (5) The Netherlands, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Construction and real estate



15.1: CONSTRUCTION

The statistical classification of economic activities covers construction activities within NACE Section F which is the same as NACE Division 45. Some technical activities related to the construction sector, although not formally part of it, such as architectural services or landscaping, are covered within Chapter 22. The production of construction materials is a major part of several mining, quarrying and manufacturing activities which are all covered in other chapters - see Box 15.1 on page 252.

Within NACE, construction is defined according to chronological stages of the construction process, starting with demolition and site preparation (NACE Group 45.1), passing through general construction activities (NACE Group 45.2), and ending with installation (NACE Group 45.3) and completion work (NACE Group 45.4). One final construction activity covers the renting with an operator of construction equipment (NACE Group 45.5).

Building and civil engineering involves the construction of normally unique projects, with the time scale for many projects from conception to completion typically longer than in many other sectors, often years. The construction of many projects, whether building or civil engineering, often involves a large number of sub-contracting enterprises with various specialisations, organised by a project coordinating enterprise or lead developer.

The construction sector is characterised by a large number of small enterprises, and relatively few large ones - see Table 15.3 - with most enterprises serving a relatively small geographical market. The map overleaf shows the contribution of the construction sector to employment within the business economy of each region.

STRUCTURAL PROFILE

The construction sector had a value added of EUR 384.4 billion in the EU-25 in 2002 and employed 12.2 million persons, equivalent to 8.1 % of the non-financial business economy's (NACE Sections C to I and K) value added and 10.4 % of its employment. The United Kingdom had the largest construction sector with a 20.7 % share of EU-25 value added in 2002 (see Table 15.1), 0.9 percentage points above its share in the non-financial business economy total. Germany had the second largest construction sector in the EU-25 in value added terms, but its 16.6 % share of the EU-25's construction value added was considerably less than its 21.3 % share of value added in the EU-25's non-financial business economy. Looking at value added specialisation, Luxembourg and Portugal had the largest construction sectors ⁽¹⁾ as 12.4 % and 11.8 % of their value added in the non-financial business economy in 2002 was generated in the construction sector. Malta, Slovakia, Hungary and Germany reported the lowest relative shares, as the construction sector accounted for less than 6.5 % of the value added generated in their non-financial business economies.

⁽¹⁾ Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland and Cyprus, not available.

NACE

45: construction;
 45.1: site preparation;
 45.2: building of complete constructions or parts thereof; civil engineering;
 45.3: building installation;
 45.4: building completion;
 45.5: renting of construction or demolition equipment with operator;
 70: real estate activities;
 70.1: real estate activities with own property;
 70.2: letting of own property;
 70.3: real estate activities on a fee or contract basis.

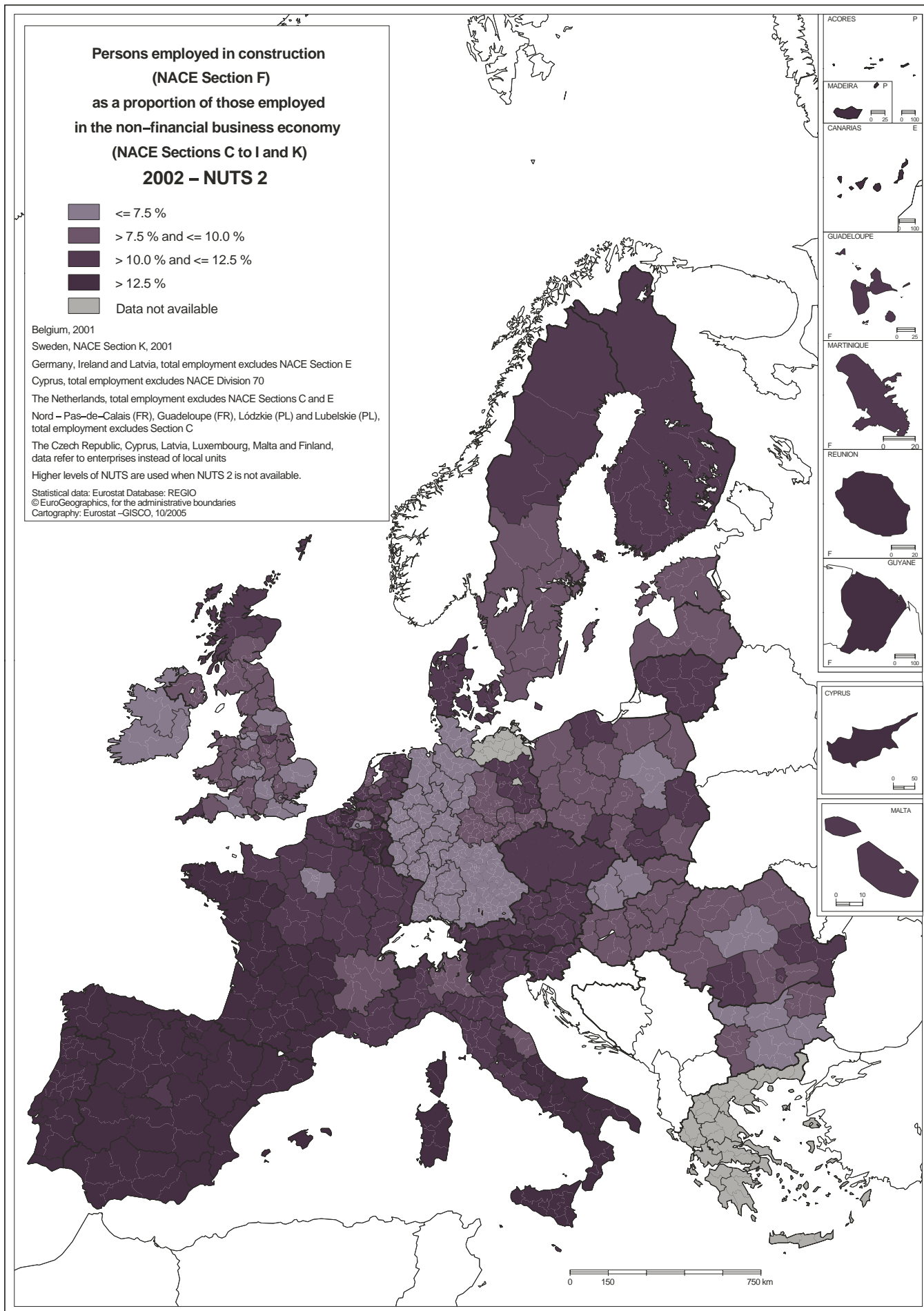
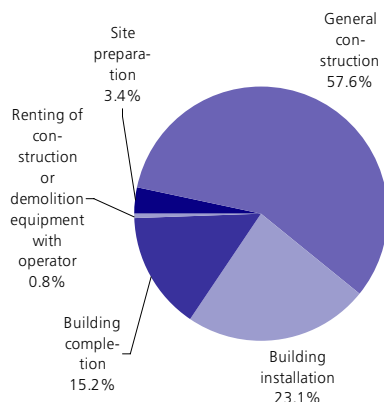


Figure 15.1

**Construction (NACE Division 45)
Breakdown of sectoral value added,
EU-25, 2002 (%)**



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The situation with respect to employment was somewhat different. The Spanish construction sector was the largest by this measure with 2.2 million persons employed, 18.0 % of the EU-25 total, ahead of Germany (15.0 %), Italy (12.9 %) and France (12.1 %). The United Kingdom, which contributed the largest share of EU-25 value added in construction, had only the fifth largest workforce, with just 10.7 % of the EU-25 total. The construction sector had an 18.4 % share of the Spanish workforce in the non-financial business economy, 8.0 percentage points above the average for the EU-25, and more than two and a half times as high as in the United Kingdom.

Various classifications can be used to describe construction output. The NACE classification identifies five groups and a more detailed analysis of each of these subsectors is presented later in this subchapter. The largest of the five NACE groups in the EU-25, according to structural business statistics, was the building of complete constructions or parts thereof and civil engineering (NACE Group 45.2, hereafter referred to as general

Table 15.1

**Construction (NACE Division 45)
Structural profile: ranking of the top 3 Member States, 2002**

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	United Kingdom (20.7)	Luxembourg (153.1)	Spain (18.0)	Spain (176.8)
2	Germany (16.6)	Portugal (145.4)	Germany (15.0)	Luxembourg (146.0)
3	France (14.1)	Spain (122.5)	Italy (12.9)	Portugal (144.6)

(1) Belgium, the Czech Republic, Greece and Latvia, 2001.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus and Latvia, not available.

(3) Greece, 2001.

(4) Greece, France, Ireland, Cyprus and Latvia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

construction). This subsector alone accounted for more than half of the value added (57.6 %) and employment (54.2 %) in the EU-25's construction sector - see Figure 15.1. Building installation work (NACE Group 45.3) and building completion work (NACE Group 45.4) were the next largest subsectors, with 23.1 % and 15.2 % respectively of the EU-25's value added in construction. The two smallest subsectors were site preparation (NACE Group 45.1) and the renting of construction or demolition equipment with an operator (NACE Group 45.5) which contributed respectively 3.4 % and 0.8 % of construction value added in the EU-25 in 2002. In most of the Member States ⁽²⁾ the general construction subsector generated approximately half or more of the construction sector's value added, with Sweden (47.7 %), Denmark (44.8 %) and France (43.0 %) a few percentage points below this level.

⁽²⁾ Belgium, the Czech Republic, Greece and Latvia, 2001.

Table 15.2

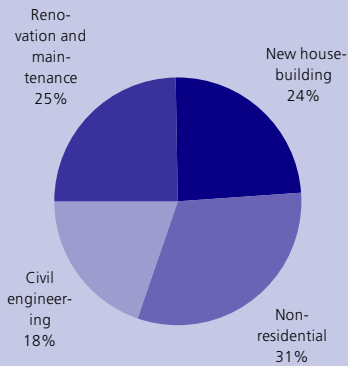
**Construction (NACE Division 45)
Structural profile, EU-25, 2002**

	Value added (EUR million)	Share of non-financial business economy value added (%)	Number of persons employed (thousands)	Share of non-financial business economy employment (%)
Construction	384 369	8.1	12 165	10.4
Site preparation	12 894	0.3	362	0.3
General construction	221 576	4.7	6 596	5.6
Building installation	88 650	1.9	2 913	2.5
Building completion	58 285	1.2	2 229	1.9
Renting of construction or demolition equipment with operator	2 964	0.1	65	0.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 15.2

Breakdown of construction output, Europe, 2003 (1)



(1) Estimates; EU-15 plus the Czech Republic, Hungary, Poland, Slovakia, Bulgaria, Romania, Turkey, Norway and Switzerland.
Source: FIEC

Table 15.3

**Construction (NACE Division 45)
Value added at factor cost and
employment by enterprise size class,
EU average, 2002 (% of total) (1)**

	Share of value added	Share of persons employed
Micro enterprises	34.5	42.6
Small enterprises	31.2	30.6
Medium-sized enterprises	16.7	15.0
Large enterprises	17.6	11.8

(1) Belgium, the Czech Republic and Latvia, 2001; Greece, Ireland and Luxembourg, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

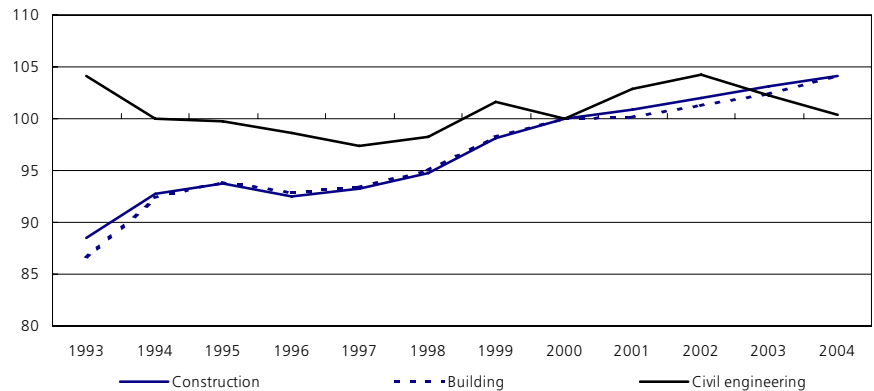
The European Construction Industry Federation ⁽³⁾ provides a project-based breakdown of construction output - see Figure 15.2. According to these estimates, approximately 18 % of construction work in Europe ⁽⁴⁾ was accounted for by civil engineering in 2003, and the largest building segment was non-residential (31 %). Renovation and maintenance, and new residential building each accounted for about one quarter of total construction output.

⁽³⁾ FIEC (The European Construction Industry Federation), more information at: <http://www.fiec.org>.

⁽⁴⁾ EU-15 plus the Czech Republic, Hungary, Poland, Slovakia, Bulgaria, Romania, Turkey, Norway and Switzerland.

Figure 15.3

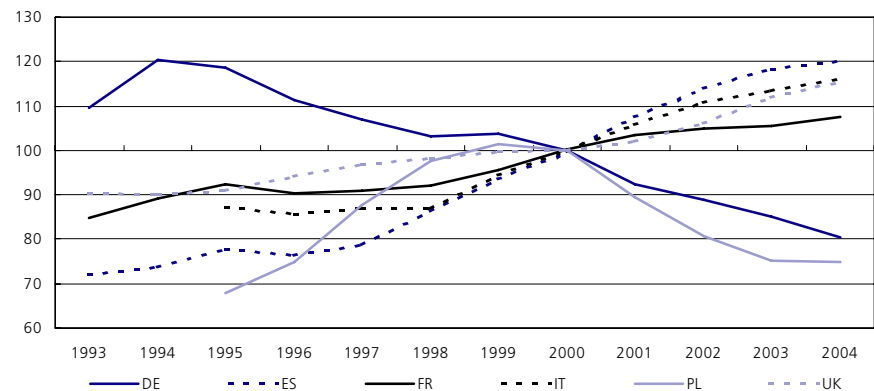
Production indices: construction, building and civil engineering, EU-25 (2000=100) (1)



(1) Working-day adjusted data.
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 15.4

Production indices for construction (2000=100) (1)



(1) Working-day adjusted data.
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Micro and small enterprises (with less than 50 persons employed) together generated 65.7 % of the EU's ⁽⁵⁾ value added in the construction sector in 2002, a relatively high share compared with many other activities. Large enterprises (with more than 250 persons employed) generated less than one fifth of the EU's value added (17.6 %). Most Member States displayed a similar pattern, as in 2002 the combination of micro and small enterprises generated at least half of the construction sector's value added in all Member States except the Baltic States, the Czech Republic and Slovakia. The largest contribution of micro and small enterprises was in the Italian construction sector where they generated 86.4 % of value added.

⁽⁵⁾ Belgium, the Czech Republic and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

Developments in output, confidence, costs and prices

The construction sector is considered to be cyclical, influenced by business and consumer confidence, interest rates and Government programmes. Figures 15.3 and 15.4 show the development of construction output in the EU-25 and some of the larger Member States. The references to building and civil engineering are based on the 'classification of constructions', rather than NACE. It can be seen that since 1993 building work went through more than one cycle, with an overall upward trend. Building output increased in 1994 and 1995, contracted in 1996, recovered slowly in 1997, and grew more strongly in the three years through to 2000 averaging 2.3 % growth per annum. More recently 2001 was a year of no growth, followed by three years of more modest growth than experienced towards the end of the 1990's, averaging 1.3 % per annum. The development for civil engineering was somewhat different, with no overall trend.

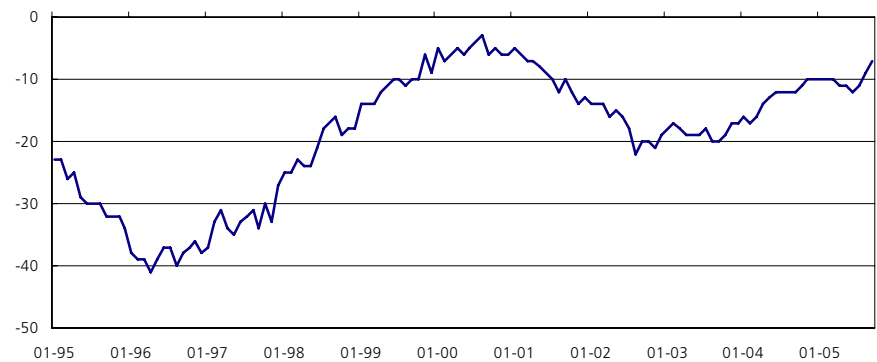
The decline in activity started in 1993, however, instead of picking up again in 1994, this part of construction activity continued to contract for five consecutive years, with no annual growth until 1998. From 1998 to 2004, civil engineering in the EU-25 experienced alternating fortunes with one or two years of growth followed by short periods of contraction.

Figure 15.4 shows the contrasting development in construction output in six of the larger Member States. France, Italy, the United Kingdom and most notably Spain all recorded more or less sustained periods of growth as regards construction activity from the middle of the 1990s, continuing through to 2004, with only occasional annual contractions in output. However, since a peak of activity in 1994 stimulated at least in part by reunification, construction in Germany only expanded in one year, with the production index falling by an average of 4.0 % per annum over the ten years to 2004. The time-series for Poland shows very rapid growth between the beginning of the series in 1995 and 1999, averaging 10.6 % per annum, followed by a period of contraction, averaging 5.9 % per annum over the five years to 2004, although recently the rate of contraction slowed considerably and was just -0.7 % in 2004.

Figure 15.5 shows the development of the balance of construction confidence for the EU-25 over a 10-year period, during which the balance remained negative, although it rose from its low in April 1996 to close to zero in the middle of 2000. The construction confidence balance then fell gently, bottoming out in August 2002 and stabilising in the range of -17 to -22 percentage points through to February 2004. Most recently this indicator recorded an increase in confidence and the latest figure for September 2005 was a negative balance of -7 %, almost back to the levels of the middle of 2000.

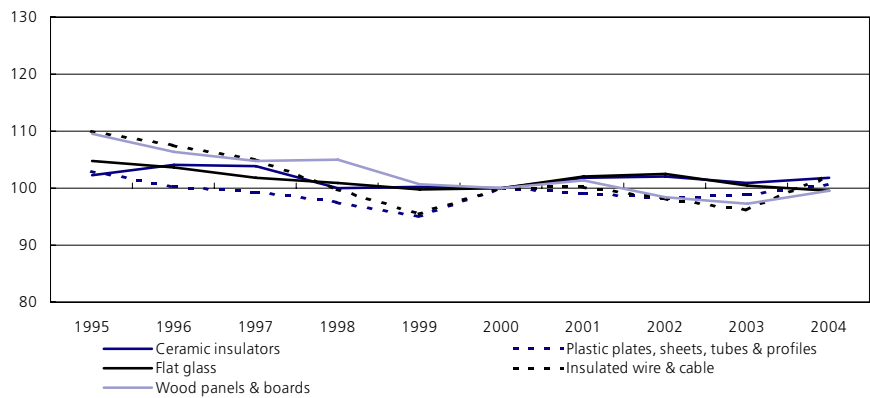
Figures 15.6 and 15.7 show the development of output prices of selected activities extracting or producing construction materials, with Figure 15.6 showing examples of activities whose output price indices were relatively stable or falling over the period 1995 to 2004, while Figure 15.7 shows examples of activities whose prices rose over the same period. Note that not all of the output of each of these activities is destined for construction, nor does the construction sector carry out all construction work, which may for example be done by individuals, by specialised departments of the public administration, or network operators. Nevertheless, these indices give an indication of the changes in prices for materials faced by enterprises in the construction sector. Box 15.1 overleaf provides a more extensive list of activities that supply materials to the construction sector.

Figure 15.5
Construction confidence indicator, EU-25 (balance %) (1)



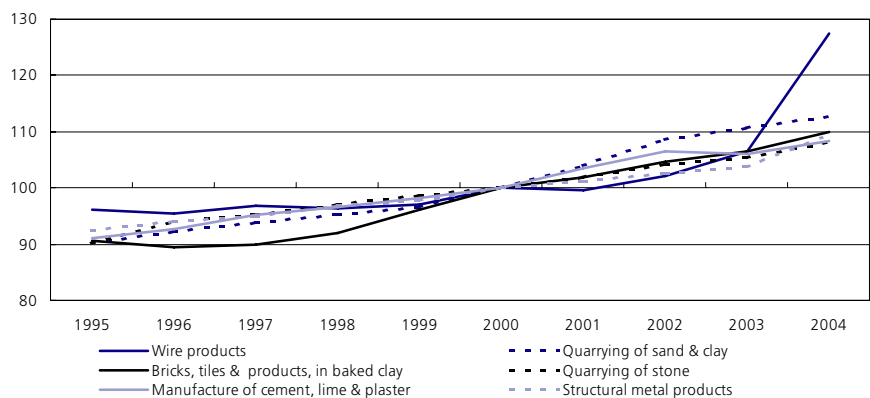
(1) Percentage of positive responses minus the percentage of negative responses; seasonally adjusted data. Source: Eurostat, General and regional statistics, European and national short term indicators, Business and consumer surveys (Source: DG ECFIN)

Figure 15.6
Industrial output price indices for selected construction material supplying activities, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 15.7
Industrial output price indices for selected construction material supplying activities, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

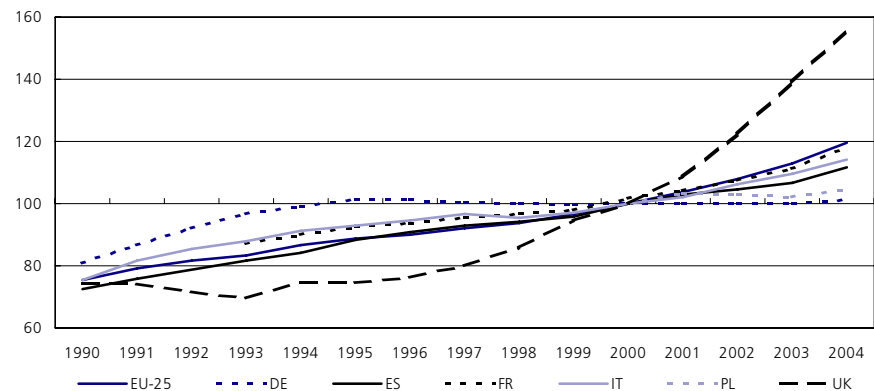
Box 15.1: activities typically supplying the construction sector with production materials

The construction sector uses a wide range of materials in building and civil engineering works. The list below is a selection of activities that extract or manufacture some of the most common materials and products used:

- other mining and quarrying (NACE Division 14) which includes the extraction of stone, slate, sand and gravel;
- the manufacture of wood and wood products (NACE Division 20) including flooring, various panels and boards, and in particular builders' carpentry and joinery;
- the manufacture of rubber and plastic products (NACE Division 25) including rubber rings and seals, plastic sheets, tubes and profiles, and in particular builders' ware of plastics;
- the manufacture of other non-metallic mineral products (NACE Division 26) such as glass, ceramic sanitary fixtures, mineral insulating materials, tiles, flags, bricks, cement, lime, concrete and plaster, as well as the cutting, shaping and finishing of building stone;
- the manufacture of fabricated metal products (NACE Division 28) including structural metal products, tanks, reservoirs, central heating radiators and boilers, locks and hinges, metal cables, wire, screws and nails;
- the manufacture of machinery and equipment (NACE Division 29) including taps and valves, and cooling and ventilation systems;
- the manufacture of electrical machinery and apparatus (NACE Division 31) including electricity distribution and control apparatus, insulated wire and cable, lighting equipment and electric lamps.

The declining construction activity in Germany as indicated by the construction production indices was reflected also in the output price indices for residential buildings shown in Figure 15.8, as the German index remained more or less unchanged since 1994. Of the six Member States shown in the figure, the United Kingdom recorded the fastest increase in output prices since 1993 (Poland since 2000), with prices increasing on average by 7.6 % per annum. Spain recorded average output price increases over the same period of 2.9 % and France 2.8 %, both just below the EU-25 average of 3.3 %.

Figure 15.8
Output price indices for residential buildings (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

EMPLOYMENT CHARACTERISTICS

The high importance of micro and small enterprises in the construction sector reflects the importance of self-employment. The proportion of paid employees in the total workforce was 80.7 % in the EU-25 in 2002 according to structural business statistics, 12.9 percentage points lower than the manufacturing (NACE Section D) average for comparison and 0.9 percentage points below the non-financial services average. At the NACE division level, this was the fourth lowest proportion of paid employees within the EU-25's non-financial business economy in 2002⁽⁶⁾, higher only than real estate services, retail trade and hotels and restaurants.

An analysis (based on Labour Force Survey data) of the EU-25's construction (NACE Section F) labour force according to three age groups shows that the age profile was quite similar to the average for the whole business economy (NACE Sections C to K) in 2004. The youngest age group, namely persons aged 15 to 24, made up 12.6 % of the construction labour force, and the oldest age group, aged 50 or over, accounted for 21.5 % of the total, both less than one percentage point more than the business economy average.

Like other activities involving physical labour (such as mining), the male proportion of the labour force in the construction sector was relatively high, 91.8 % in the EU-25 in 2004 - see Table 15.4. This was 27.1 percentage points higher than the business economy average, and the highest of all of the business economy NACE divisions for which data are available. In all Member States the proportion of men in the construction labour force was between 21 and 33 percentage points higher than national business economy averages.

Full-time employment was also high in the construction sector, as 94.6 % of persons were employed on this basis in the EU-25 in 2004 compared with 85.8 % in the business economy as a whole, and 92.7 % in industry (NACE Sections C to E).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's construction sector in 2002 was EUR 31 600 per person employed, one of the lower rates at the NACE division level within the non-financial business economy. Only in the United Kingdom was apparent labour productivity in the construction sector higher than the non-financial business economy average⁽⁷⁾, as it reached EUR 60 900 per person employed compared with an industrial average of EUR 52 300. In the EU-25, average personnel costs were EUR 25 800 per employee, again among the lowest levels recorded in the non-financial business economy. Only in the Netherlands and the United Kingdom were average personnel costs in the construction sector significantly higher than the non-financial business economy average. The relatively low levels of apparent labour productivity and average personnel costs were particularly notable given the small proportion of part-time employment within this sector, which has the effect of bringing these ratios lower. Most of the other activities that recorded low values for these two indicators, for example, distributive trades or hotels and restaurants, were characterised by considerably higher levels of part-time employment.

⁽⁷⁾ Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland and Cyprus, not available.

⁽⁶⁾ NACE Divisions 10, 12, 13, 16, 24, 26, 32, 33, 40 and 41, not available.

Table 15.4

Construction (NACE Division 45)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (business economy=100)	Proportion of those employed (%)	Index (business economy=100)	< 25 years (1)	25-49 years	50+ years
EU-25	91.8	141.9	94.6	110.2	12.6	65.9	21.5
BE	94.4	139.0	93.9	112.5	11.8	70.4	17.8
CZ	92.4	147.7	98.6	102.6	7.2	67.7	25.1
DK	90.9	137.4	93.5	115.1	12.9	60.4	26.8
DE	86.5	137.3	91.4	112.6	13.0	64.2	22.8
EE	88.0	156.4	92.8	99.2	15.4	76.9	16.1
EL	98.0	143.0	97.4	100.7	11.4	66.5	22.1
ES	94.8	139.4	98.5	105.5	13.8	68.9	17.3
FR	90.8	140.5	95.5	107.6	12.5	66.6	20.8
IE	95.0	146.7	96.8	113.2	23.4	59.5	17.1
IT	94.6	140.3	94.5	106.6	11.8	68.4	19.8
CY	94.9	152.0	98.3	105.3	15.5	62.0	22.6
LV	89.5	152.0	96.2	103.6	15.5	63.2	21.3
LT	91.7	155.0	98.3	103.1	8.6	66.7	24.7
LU	91.7	134.3	95.3	108.5	9.5	72.9	17.6
HU	91.6	150.2	97.5	101.7	8.6	72.1	19.4
MT	97.5	128.4	97.3	104.8	16.7	60.6	24.4
NL	92.3	140.4	86.2	138.4	12.8	64.8	22.4
AT	88.0	144.4	92.4	114.7	21.5	62.6	15.8
PL	93.3	148.5	95.2	102.8	8.8	72.7	18.6
PT	95.3	150.1	96.9	101.8	13.1	69.9	17.0
SI	91.4	151.2	95.3	101.6	8.9	74.2	17.0
SK	93.3	151.7	99.4	101.5	12.3	71.5	16.2
FI	93.0	146.3	94.9	108.1	10.8	60.4	28.8
SE	92.8	138.9	92.4	112.6	9.9	57.3	32.8
UK	90.0	140.3	92.5	118.6	13.3	59.2	27.5

(1) Estonia and Malta, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

The wage adjusted labour productivity ratio provides a measure of the extent to which value added covers personnel costs (adjusted by the ratio of persons employed to employees), and as such is unaffected by issues of part-time employment or hours worked. In the construction sector in 2002 this ratio was 122.3 % for the EU-25, indicating that value added was 22.3 % higher than adjusted personnel costs, again one of the lowest levels among the non-financial business economy NACE divisions. Among the five NACE groups that make up the construction sector the wage adjusted labour productivity ratio in the EU-25 ranged from 104.8 % for building completion activities (NACE Group 45.4) to 150.8 % for

the renting of construction or demolition equipment with an operator (NACE Group 45.5) - see Table 15.5 overleaf. The generally low level of productivity in the construction sector was reflected in the data for some of the Member States, as the wage adjusted labour productivity ratio was below 100 % in Poland (75.5 %) and the Czech Republic (96.3 %, 2001) ⁽⁸⁾, while only in Latvia did this ratio for the construction sector rise above the non-financial business economy average ⁽⁹⁾.

The gross operating rate shows the relation between the gross operating surplus (value added minus personnel costs) and turnover. In

the construction sector this rate was 11.8 % in the EU-25 in 2002, above the 10.8 % average for the non-financial business economy (NACE Sections C to I and K). The gross operating rate in the EU-25's construction sector ranged from 10.9 % for general construction activities to 14.7 % for site preparation, with the renting of construction or demolition equipment with an operator posting a gross operating rate well above this range, at 24.4 %. Among the Member States the gross operating rate was higher in the construction sector than the non-financial business economy average in several Member States, in particular Italy, Luxembourg and the United Kingdom where it was higher by at least 3.0 percentage points.

⁽⁸⁾ Belgium, the Czech Republic, Greece and Latvia, 2001.

⁽⁹⁾ Belgium, the Czech Republic, France and Latvia, 2001; Greece, Ireland and Cyprus, not available.

Table 15.5

Construction (NACE Division 45)
Labour productivity and personnel costs, EU-25, 2002

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Construction	31.6	122.3	25.8
Site preparation	35.7	131.5	27.1
Building of complete constructions or parts thereof; civil engineering	33.6	130.8	25.7
Building installation	30.4	114.6	26.6
Building completion	26.1	104.8	25.0
Renting of construction or demolition equipment with operator	45.4	150.8	30.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

SITE PREPARATION

Site preparation (NACE Group 45.1) includes relatively diverse activities, ranging from test drilling and boring to determine ground conditions, through demolition of existing buildings and structures, site clearance, ground stabilisation, excavation, to earth moving and trench digging.

STRUCTURAL PROFILE

Site preparation (NACE Group 45.1) generated EUR 12.9 billion of value added in the EU-25 in 2002 and employed 361 500 persons, equivalent to 3.4 % of value added in the construction sector (NACE Division 45) and 3.0 % of employment. As such this was the second smallest NACE group within the construction sector, larger only than the renting of equipment with an operator (NACE Group 45.5).

In the majority of the Member States ⁽¹⁰⁾, site preparation accounted for less than 4 % of the value added generated in the construction sector, with Finland (10.6 %), Sweden (8.8 %) and France (6.6 %) the only Member States above this share. The largest contribution to EU-25 value added in the site preparation subsector was made by France, with more than a quarter (27.5 %) of the total in 2002, which was more than double the share of the next largest Member State, namely Germany (13.5 %) - see Table 15.6.

⁽¹⁰⁾ Belgium, the Czech Republic, Greece, Cyprus and Latvia, 2001; the Netherlands and Slovakia, not available.

Table 15.6

Site preparation (NACE Group 45.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	France (27.5)	Finland (307.6)	France (23.2)	Finland (306.3)
2	Germany (13.5)	Sweden (254.2)	Spain (14.8)	Sweden (246.8)
3	United Kingdom (9.9)	Austria (125.5)	Germany (12.5)	Czech Republic (208.5)

(1) Belgium, the Czech Republic, Greece, Cyprus and Latvia, 2001; the Netherlands and Slovakia, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Latvia, the Netherlands and Slovakia, not available.

(3) Greece and Cyprus, 2001; Slovakia, not available.

(4) Greece, France, Ireland, Cyprus, Latvia and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

The EU-25's site preparation subsector reported apparent labour productivity of EUR 35 700 per person employed in 2002, EUR 4 100 higher than the construction average and higher than for general construction, building installation and completion activities (NACE Groups 45.2, 45.3 and 45.4). A similar situation can be observed for average personnel costs, which were EUR 27 100 per employee for site preparation in the EU-25, some EUR 1 300 higher than the construction average; again site preparation reported the second highest value among NACE groups within the construction sector, behind renting construction or demolition equipment with an operator.

The combination of higher apparent labour productivity and average personnel costs resulted in a wage adjusted labour productivity ratio of 131.5 %: this shows the ratio of value added to personnel costs, after adjusting the

latter for the ratio of the number of employees to the number of persons employed. This ratio was higher for site preparation than for the whole of the construction sector (122.3 %) and again within construction it was second highest behind renting construction or demolition equipment with an operator.

In a similar way to the labour ratios, the EU-25's gross operating rate (the gross operating surplus as a percentage of turnover) was higher for site preparation than for general construction, building installation and completion activities, but lower than for the renting of construction or demolition equipment with an operator. In 2002 this rate reached 14.7 % for site preparation in the EU-25, with Greece (34.2 %, 2001), Malta (31.2 %) and Austria (26.7 %) recording particularly high rates ⁽¹¹⁾.

⁽¹¹⁾ Belgium, the Czech Republic, Greece, Cyprus and Latvia, 2001; the Netherlands and Slovakia, not available.

GENERAL CONSTRUCTION

The building of complete constructions (or parts thereof) and civil engineering (NACE Group 45.2), here referred to as general construction, constitute the core activities of the construction sector. These two activities are the first stages of most construction activities, following on from the activities of architects, structural engineers and landscape designers. At the four-digit level of NACE there are five parts to the activity: general construction of buildings and civil engineering (NACE Class 45.21) which includes most building work as well as engineering projects such as bridges, tunnels, and cable and pipe networks; the erection of roof covering and frames (NACE Class 45.22); the construction of motorways, roads, airfields and sports facilities (NACE Class 45.23); the construction of water projects (NACE Class 45.24) including waterways, locks and ports, as well as dredging work; and other special trades construction work (NACE Class 45.25) including, for example, foundations work, pile-driving and scaffolding.

One indicator of the development of building work is the number of completions of dwellings provided in Housing statistics in the European Union, 2004⁽¹²⁾ - see Table 15.7. From this it can be established that the number of newly completed dwellings in the EU-25 fell from around 2.7 million in 1980 to around 2.2 million by 1990, a level maintained since then. This relative stability since 1990 however hides a more dynamic situation, notably in some of the larger Member States. The number of completions rose strongly in Germany in the first half of the 1990s, partly due to an impetus given by reunification, before falling back to a level in 2003 which was less than half its 1995 level. This increase in Germany in the first half of the 1990s coincided with a fall in most of the new Member States as well as the Nordic Member States and Greece. The subsequent fall in the number of newly completed dwellings in Germany occurred while there was a strong increase in several of the Member States that joined the EU in 2004 (notably Poland, Slovakia, Estonia and the Czech Republic), as well as Ireland, Greece, Denmark, Sweden and Spain.

⁽¹²⁾ Published by the National Board of Housing, Building and Planning, Sweden; and the Ministry for Regional Development, the Czech Republic.

Table 15.7 Number of newly completed dwellings (thousands)

	1980	1985 (1)	1990	1995	2000	2003 (2)	Newly completed dwellings per 1 000 inhabitants, 2003 (2)
BE	48.6	30.3	43.1	41.6	38.9	40.7	3.9
CZ (3)	80.7	66.7	44.6	12.7	25.2	27.1	2.7
DK	30.3	22.8	27.2	13.5	16.3	23.8	4.4
DE	500.8	427.8	319.0	602.8	423.0	268.1	3.6
EE	14.4	13.5	7.6	1.1	0.7	2.4	1.8
EL (4)	136.0	88.5	120.2	70.9	89.4	128.3	:
ES	262.9	191.4	281.0	282.5	454.7	458.7	11.3
FR (5)	378.3	343.6	336.0	404.0	311.1	334.0	5.6
IE	27.8	23.9	19.5	30.6	49.8	68.8	17.4
IT	287.0	200.8	176.4	187.0	177.6	:	:
CY	9.0	7.5	8.1	6.9	5.1	6.1	8.6
LV	:	:	13.3	1.8	0.9	0.8	0.3
LT (4)	28.3	28.8	22.1	5.6	4.5	4.6	1.3
LU	2.0	1.3	2.5	2.7	1.7	1.6	3.6
HU	89.1	72.5	43.8	24.7	21.6	:	:
MT	5.0	:	:	:	:	:	:
NL	113.8	101.1	101.4	99.0	74.8	59.6	3.7
AT	:	41.2	41.8	53.4	53.8	41.9	5.2
PL (4)	217.1	189.6	134.2	67.1	87.8	162.7	4.3
PT	41.0	38.4	65.8	72.2	110.9	82.3	7.9
SI (6)	13.6	11.3	8.1	6.1	6.8	7.3	3.7
SK	48.2	37.8	24.7	6.2	12.9	14.0	2.6
FI	49.6	50.3	65.4	25.0	32.7	28.1	5.4
SE (4)	51.4	32.9	58.0	14.2	15.9	23.7	2.7
UK (7)	252.1	224.0	205.1	199.7	178.1	189.9	3.2

(1) France, 1984. (2) Greece, France, Cyprus, Luxembourg, Austria and Slovenia, 2002.

(3) Dwellings in buildings with up to three dwellings. (4) One or two dwelling buildings.

(5) 2000, dwellings started. (6) From 1990, including dwellings for occasional use.

(7) From 1995, dwellings completed in new constructions only.

Source: National statistical institutes and Government departments, in 'Housing statistics in the European Union, 2004', National board of Housing, Building and Planning, Sweden and Ministry for Regional Development of the Czech Republic

STRUCTURAL PROFILE

General construction activities (NACE Group 45.2) generated EUR 221.6 billion of value added in the EU-25 in 2002, and as such accounted for more than half (57.6 %) of the construction sector's (NACE Division 45) value added. In terms of employment, its 6.6 million strong workforce was equivalent to 54.2 % of the construction sector's total.

The largest contributor to EU-25 value added in the general construction subsector was the United Kingdom with EUR 49.9 billion of value added, 22.5 % of the EU-25 total - see Table 15.8 overleaf. Germany, Italy, Spain and France all contributed at least 10 % of the EU-25 total. The largest national workforce in the general construction subsector was the Spanish one, with 1.3 million persons employed, 20.0 % of the EU-25 total, while the workforce in the United Kingdom represented just 11.3 % of the EU-25 total.

A more detailed analysis of the EU's⁽¹³⁾ general construction subsector is available for 2002, although it should be noted in particular that this excludes one of the larger Member States, namely Spain. According to this incomplete analysis, general construction of buildings and civil engineering work (NACE Class 45.21) was by far the largest part of NACE Group 45.2, with 68.2 % of value added - see Figure 15.9 overleaf. Other construction work involving special trades (NACE Class 45.25) was the second largest class with 14.0 % of value added, while the specialist activity of the erection of roof coverings and frames (NACE Class 45.22) accounted for 7.7 %. The two classes that are mainly associated with civil engineering projects, namely road building including also the construction of airfields and

⁽¹³⁾ Belgium and Latvia, 2001; the Czech Republic, Denmark, Greece, Spain, Ireland, Luxembourg and the Netherlands, incomplete or not available.

sports facilities (NACE Class 45.23) and water projects (NACE Class 45.24) generated 9.4 % and 0.7 % of value added in the general construction subsector respectively. General construction of buildings and civil engineering work accounted for at least half of the value added in the general construction subsector in all countries for which data are available, except France.

In most of the Member States ⁽¹⁴⁾ general construction activities generated approximately half or more of the construction sector's value added, with Sweden (47.7 %), Denmark (44.8 %) and France (43.0 %) a few percentage points below this level. Cyprus reported the highest concentration of activity in the general construction subsector in 2002, with 83.8 % of its construction value added generated in this subsector, and just 14.3 % in the building installation and completion subsectors.

A size class analysis is available for general construction (NACE Group 45.2) for 2002, again for an incomplete set of Member States ⁽¹⁵⁾ - see Table 15.9. According to this analysis micro enterprises (with less than 10 persons employed) generated 28.8 % of value added in this subsector, and small enterprises (with 10 to 49 persons employed) some 27.8 %. In both cases, this was less than the share of value added that these size classes generated in the construction sector as a whole, and combined their share in this subsector was 8.6 percentage points less than the construction average.

PRODUCTIVITY AND PROFITABILITY

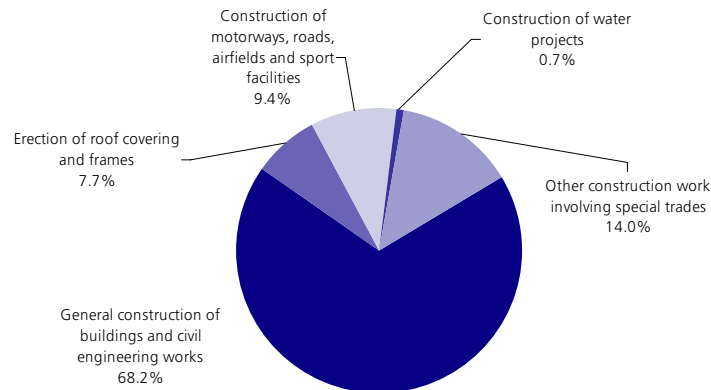
The EU-25's general construction activity reported apparent labour productivity of EUR 33 600 per person employed in 2002, EUR 2 000 higher than the construction average. Average personnel costs in this activity were EUR 25 700 per employee, the same as the construction average. The combination of a higher apparent labour productivity and average personnel costs that were typical of those recorded for the construction sector as a whole, led to a wage adjusted labour productivity ratio of 130.8 %, 8.5 percentage points higher than the construction average. In Poland, however, general construction activities recorded a wage adjusted labour productivity ratio of just 78.8 %, indicating that added value per person employed was lower than personnel costs per employee.

⁽¹⁴⁾ Belgium, the Czech Republic, Greece and Latvia, 2001.

⁽¹⁵⁾ Belgium, the Czech Republic, Latvia, Lithuania, Malta and Slovakia, 2001; Greece, Spain and Ireland, incomplete or not available.

Figure 15.9
General construction (NACE Group 45.2)

Share of value added at factor cost, EU average, 2002 (1)



(1) Belgium and Latvia, 2001; the Czech Republic, Denmark, Greece, Spain and the Netherlands, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 15.8
General construction (NACE Group 45.2)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	United Kingdom (22.5)	Portugal (196.8)	Spain (20.0)	Portugal (197.6)
2	Germany (15.1)	Luxembourg 156.2)	Germany (12.9)	Spain (196.1)
3	Italy (13.9)	Spain (139.8)	Italy (12.2)	Luxembourg (143.7)

(1) Belgium, the Czech Republic, Greece and Latvia, 2001.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus and Latvia, not available.

(3) Greece, 2001.

(4) Greece, France, Ireland, Cyprus and Latvia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The gross operating rate for general construction activities was 10.9 % in the EU-25 in 2002, the lowest of the construction NACE groups. Rarely did the gross operating rate in general construction activities exceed the construction average in the Member States ⁽¹⁶⁾, although this was the case in Luxembourg, Ireland, Cyprus and Latvia (2001). In line with its very low wage adjusted labour productivity ratio, Poland recorded the lowest gross operating rate in this subsector, just 1.0 %, considerably lower than the next lowest rate (3.6 %) in Slovenia.

⁽¹⁶⁾ Belgium, the Czech Republic, Greece and Latvia, 2001.

Table 15.9
General construction (NACE Group 45.2)
Value added at factor cost and employment by enterprise size class, EU average, 2002 (% of total) (1)

	Share of value added	Share of persons employed
Micro enterprises	28.8	35.3
Small enterprises	27.8	28.3
Medium-sized and large enterprises	43.4	36.4

(1) Belgium, the Czech Republic, Latvia, Lithuania, Malta and Slovakia, 2001; Greece, Spain and Ireland, incomplete or not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

BUILDING INSTALLATION ACTIVITIES

Installation work is divided into four classes at the NACE four-digit level: installation of electrical wiring and fittings (NACE Class 45.31); insulation (NACE Class 45.32); plumbing (NACE Class 45.33) including all water and gas supply, drainage, heating and ventilation work; and other building installation activities (NACE Class 45.34). Note that the installation of industrial equipment (for example, the installation of industrial furnaces and turbines) is excluded.

Building installation activities include the installation of a range of utilities and these activities are usually performed at the site of the construction. For example, activities such as plumbing, installation of heating and air-conditioning systems, aerials, alarm systems and other electrical work, sprinkler systems, elevators and escalators are included. Also included are insulation work (water, heat, and sound), sheet metal work, commercial refrigeration work, and the installation of illumination and signalling systems for roads, railways, airports, harbours, etc.

Building installation enterprises are generally active in construction projects after general and special trades' enterprises, and before the completion work. As well as work on new structures, the renovation, repair and maintenance markets are also important for enterprises in these activities.

STRUCTURAL PROFILE

Installation activities (NACE Group 45.3) employed 2.9 million persons in the EU-25 and generated EUR 88.7 billion of value added in the EU-25 in 2002. As such, building installation activities made up nearly a quarter of the construction sector (NACE Division 45), contributing 23.9 % of the workforce and 23.1 % of the value added.

The United Kingdom and Germany each accounted for close to one fifth of EU-25 value added in the building installation subsector, with 19.8 % and 19.2 % shares respectively - see Table 15.10. France (15.4 %) and Italy (12.8 %) were the only other Member States with a share above 10 %. Within the construction sector the building installation subsector was most important in value added terms in Malta and Sweden (17) where it contributed more than 30 % of construction value added. In contrast, these activities contributed just 7.6 % of construction value added in Greece (2001), 10.3 % in Cyprus and 13.9 % in Portugal.

(17) Belgium, the Czech Republic, Greece and Latvia, 2001.

Table 15.10
Building installation (NACE Group 45.3)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	United Kingdom (19.8)	Luxembourg (160.8)	Germany (17.6)	Luxembourg (160.2)
2	Germany (19.2)	Netherlands (127.5)	Italy (14.9)	Spain (139.0)
3	France (15.4)	Austria (125.6)	Spain (14.1)	Austria (124.1)

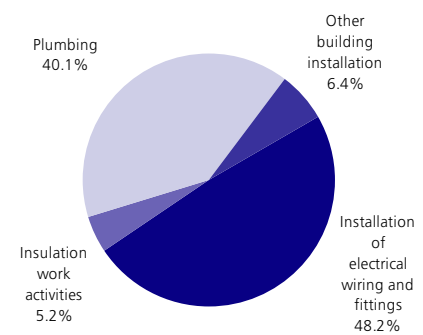
(1) Belgium, the Czech Republic, Greece and Latvia, 2001.
 (2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus and Latvia, not available.
 (3) Greece, 2001.
 (4) Greece, France, Ireland, Cyprus and Latvia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A more detailed analysis of this subsector can be made for a selection of Member States (18), although it should be noted in particular that this excludes one of the larger Member States, namely Spain. This incomplete analysis shows that at the class level of NACE the two largest activities in this subsector in value added terms were the installation of electrical wiring and fittings (NACE Class 45.31) with nearly one half (48.2 %) of total value added, and plumbing (NACE Class 45.33) with two fifths of the total (40.1 %) - see Figure 15.10. The two remaining classes, namely insulation (NACE Class 45.32) and other building installation activities (NACE Class 45.34) were much smaller, with 5.2 % and 6.4 % of the total respectively.

A size class analysis can be made for a selection of Member States (19), again notably excluding Spain. Table 15.11 shows that 35.5 % of value added in this activity for this aggregate of available Member States was generated by micro enterprises (with less than 10 persons employed) in 2002, a much greater share than in general construction (NACE Group 45.2). Small enterprises (with 10 to 49 persons employed) also contributed close to one third of the value added in building installation activities, with a 32.9 % share. As a result the share of medium-sized and large enterprises together was smaller than that of either micro or small enterprises, as together these two size classes generated 31.6 % of building installation value added.

(18) Belgium and Latvia, 2001; the Czech Republic, Greece, Spain and the Netherlands, incomplete or not available.
 (19) The Czech Republic, Denmark, Cyprus, Latvia, Poland and Slovakia, 2001; Belgium, 2000; Greece, Spain, Ireland, Luxembourg and Malta, not available.

Figure 15.10
Building installation (NACE Group 45.3)
Share of value added at factor cost, EU average, 2002 (1)



(1) Belgium and Latvia, 2001; Czech Republic, Denmark, Greece, Spain and the Netherlands, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 15.11
Building installation (NACE Group 45.3)
Value added at factor cost by enterprise size class, EU average, 2002 (% of total) (1)

Enterprise size class	Share of value added (%)
Micro enterprises	35.5
Small enterprises	32.9
Medium-sized and large enterprises	31.6

(1) The Czech Republic, Denmark, Cyprus, Latvia, Poland and Slovakia, 2001; Belgium, 2000; Greece, Spain, Ireland, Luxembourg and Malta, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

PRODUCTIVITY AND PROFITABILITY

The building installation activity recorded apparent labour productivity of EUR 30 400 per person employed in the EU-25 in 2002 and an average personnel cost of EUR 26 600 per employee. These were both higher than in building completion activities, but below the construction average. Despite relatively low average personnel costs, the wage adjusted labour productivity ratio of building installation activities (114.6 %) was below the construction average (122.3 %). In a few Member States the building installation subsector recorded wage adjusted labour productivity ratios that were below the threshold of 100 %, indicating that added value per person employed was lower than average personnel costs. This was most notably the case in the Polish building installation subsector, where this ratio was just 76.5 % in 2002, but also in the Czech Republic (90.5 %, 2001) and Slovenia (94.0 %). In six Member States the wage adjusted labour productivity was higher in the building installation subsector than in the construction sector as a whole, most notably in Slovakia and Malta where it was 31.6 and 28.8 percentage points higher.

At 12.1 %, the EU-25's gross operating rate for the building installation activities was above that for general construction activities, but lower than for the other construction NACE groups. However, because of the high weight of general construction activities in the construction sector as a whole, the gross operating rate for the building installation subsector was slightly above the construction sector average (11.8 %) in 2002. In less than half of the Member States the gross operating rate in the building installation subsector was lower than the construction average, but in most of these cases the difference was less than 2 percentage points. However, in Ireland (-6.9 percentage points), Cyprus (-3.9 points) and Luxembourg (-3.0 points) this measure of profitability, was considerably lower in building installation activities.

BUILDING COMPLETION ACTIVITIES

Completion work is divided into five classes at the NACE four-digit level: plastering (NACE Class 45.41); joinery installation (NACE Class 45.42); floor and wall covering (NACE Class 45.43); painting and glazing (NACE Class 45.44); and other building completion activities (NACE Class 45.45).

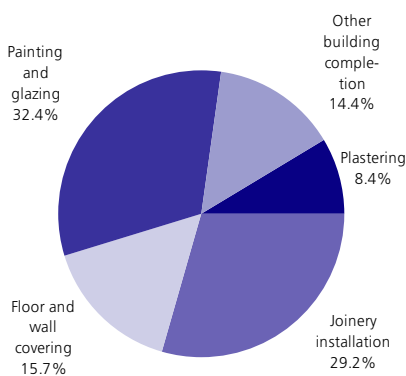
Building completion encompasses activities that contribute to the completion or finishing of a construction such as glazing, plastering, painting and decorating, floor and wall tiling or covering with other materials like parquet, carpets or wallpaper and cleaning the exterior of buildings. As with building installation activities, repair work relating to these activities is also important.

other building completion (NACE Classes 45.43 and 45.45) contributed similar shares to building completion value added, 15.7 % and 14.4 % respectively. The smallest building completion activity was plastering (NACE Class 45.41) with an 8.4 % share of the total.

France alone accounted for 23.0 % of EU-25 value added in the building completion subsector, ahead of Germany (19.8 %) and the United Kingdom (16.3 %) - see Table 15.12 - with Italy the only other Member State with a share above 10.0 %. The building completion subsector was particularly important in Germany and France also in relative terms, as this subsector contributed 24.8 % of construction value added in France and 18.1 % in Germany, well above the EU-25 average of 15.2 %; only Denmark (26.3 %) and Belgium (18.4 %, 2001) recorded comparable or higher shares ⁽²¹⁾. In contrast, building completion activities contributed just 0.9 % of construction value added in Greece (2001) and 1.4 % in Estonia.

For building completion activities the availability of size class data is quite weak, nevertheless an aggregate for 18 of the Member States ⁽²²⁾ can

Figure 15.11
Building completion (NACE Group 45.4)
Share of value added at factor cost,
EU average, 2002 (1)



(1) Belgium, 2001; Czech Republic, Estonia, Greece, Spain, Latvia and the Netherlands, not available. Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

Building completion activities (NACE Group 45.4) employed 2.2 million persons in the EU-25 in 2002, nearly 700 000 less than building installation (NACE Group 45.3) thus making it the third largest NACE group within the construction sector (NACE Division 45) with an 18.3 % share of the construction workforce. The value added generated by this workforce was EUR 58.3 billion in the EU-25, some 15.2 % of the construction sector total. A more detailed analysis of this subsector can be made for a selection of Member States ⁽²⁰⁾, although again it should be noted that this excludes Spain. The largest parts of building completion according to this incomplete aggregate were painting and glazing (NACE Class 45.44), with 32.4 % of the total, and joinery installation (NACE Class 45.42) with 29.2 % - see Figure 15.11. Floor and wall covering, and

other building completion (NACE Classes 45.43 and 45.45) contributed similar shares to building completion value added, 15.7 % and 14.4 % respectively. The smallest building completion activity was plastering (NACE Class 45.41) with an 8.4 % share of the total.

⁽²¹⁾ Belgium, the Czech Republic, Greece, Latvia and the Netherlands, 2001.

⁽²²⁾ Belgium, the Czech Republic, Denmark and the Netherlands, 2001; Latvia and Malta, 2000; Estonia, Greece, Spain, Ireland, Cyprus, Luxembourg and Slovenia, incomplete or not available.

Table 15.12

Building completion (NACE Group 45.4)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	France (23.0)	Denmark (169.1)	Germany (18.6)	Spain (176.7)
2	Germany (19.8)	Luxembourg (152.7)	Spain (18.0)	Denmark (166.3)
3	United Kingdom (16.3)	Austria (111.2)	France (17.7)	Luxembourg (146.1)

(1) Belgium, the Czech Republic, Greece, Latvia and the Netherlands, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Latvia and the Netherlands, not available.

(3) Greece, not available.

(4) Greece, France, Ireland, Cyprus and Latvia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 15.13

Building completion (NACE Group 45.4)
Value added at factor cost and employment by enterprise size class, EU average, 2002 (% of total) (1)

	Share of value added	Share of persons employed
Micro enterprises	55.5	63.1
Small enterprises	33.4	28.6
Medium-sized and large enterprises	11.1	8.3

(1) Belgium, the Czech Republic, Denmark and the Netherlands, 2001; Latvia and Malta, 2000; Estonia, Greece, Spain, Ireland, Cyprus, Luxembourg and Slovenia, incomplete or not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

be made. The importance of micro enterprises was particularly high in this subsector according to this incomplete aggregate, as these enterprises (with less than 10 persons employed) were responsible for more than half (55.5 %) of the subsector's value added - see Table 15.13. Small enterprises (with 10 to 49 persons employed) added a further one third (33.4 %) of total value added, such that the combined contribution of micro and small enterprises was 88.9 %, compared with 65.3 % for the construction sector as a whole.

PRODUCTIVITY AND PROFITABILITY

Building completion activities in the EU-25 recorded apparent labour productivity of EUR 26 100 per person employed in 2002, the lowest of the NACE groups in construction. Average personnel costs in these activities were EUR 25 000 per employee, again the lowest among construction NACE groups. Low average personnel costs in the building completion activities were not enough to compensate for low apparent labour productivity, and as such wage adjusted labour productivity (which combines the two ratios) was just 104.8 %, 17.5 percentage points below the construction average and clearly the lowest of the five construction NACE groups. This ratio shows that the value added per person employed was only 4.8 % higher than average personnel costs. This particularly low EU-25 average for wage adjusted labour productivity was reflected in the value of this indicator for the Member States⁽²³⁾, where almost one in three recorded a ratio below 100 %, indicating that added value was lower than personnel costs (after adjusting for the

⁽²³⁾ Belgium, the Czech Republic, Greece, Latvia and the Netherlands, 2001.

ratio of employees to persons employed. This was most notably the case in the building completion subsectors of the Czech Republic (2001) and Poland, where this ratio was just 52.6 % and 59.9 % respectively. Ratios below 100 % were also recorded in Hungary (89.1 %) and Cyprus (91.2 %), as well as two of the larger Member States, namely Spain (97.3 %) and Germany (98.8 %).

The building completion subsector generated a gross operating surplus of EUR 20.2 billion in 2002, equivalent to 14.5 % of turnover: this was a higher gross operating rate than recorded for general construction and building installation activities (NACE Groups 45.2 and 45.3), and 2.7 percentage points above the construction sector's average. An above average gross operating rate was also observed in nearly all Member States in 2002⁽²⁴⁾, with only four Member States, namely Cyprus, Estonia, Hungary and Luxembourg, recording a gross operating rate for building completion activities that was lower than the construction average. Malta recorded a particularly high gross operating rate in the building completion subsector, with a gross operating surplus that was equivalent to 51.3 % of turnover in 2002.

⁽²⁴⁾ Belgium, the Czech Republic, Greece, Latvia and the Netherlands, 2001.

RENTING OF CONSTRUCTION EQUIPMENT

This final section of the construction subchapter covers the activities of renting construction or demolition equipment with an operator (NACE Group 45.5), for example, the renting of cranes with an operator. This activity is hereafter referred to as operated construction equipment renting. Note however that this activity does not cover the simple renting of construction equipment without an operator, which in NACE is classified as Class 71.32.

STRUCTURAL PROFILE

Operated construction equipment renting (NACE Group 45.5) was the smallest NACE group within the EU-25 construction sector (NACE Division 45) both in terms of employment and wealth creation. Note that the size of this activity may be understated, given there are relatively few enterprises that report renting operated construction equipment as their principal activity (while there could be other enterprises, particularly those within other construction or renting activities, where the renting of operated construction equipment is a secondary activity). In 2002 it generated EUR 3.0 billion of value added with a workforce of 65 300 persons, less than 1 % of the construction sector's total for both indicators. In value added terms, the United Kingdom dominated the operated construction equipment renting subsector in the EU-25, with its EUR 1.4 billion of value added equal to 45.7 % of the EU-25 total in 2002. In employment terms, the United Kingdom's contribution to the EU-25 total was 31.5 %, with the Netherlands (12.6 %) and Poland (12.1 %) the only other Member States with a share above 9 % - see Table 15.14.

15.2: REAL ESTATE SERVICES

Within NACE, real estate services are covered by Division 70. Real estate activities are a service activity, classified in NACE alongside other business services within NACE Section K. They are nevertheless included in this chapter because of their close relationship with the construction sector.

The activities of real estate services are very diverse: real estate agents sell on a commission basis; traders buy and sell property (perhaps altering or refurbishing the property between transactions); surveyors, valuers, facilities and estate managers provide professional services; and finally owners let property. Most of these

Table 15.14

Renting of construction or demolition equipment with operator (NACE Group 45.5) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial business economy value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial business economy employment specialisation (EU-25=100) (4)
1	United Kingdom (45.7)	Slovenia (293.4)	United Kingdom (31.5)	Slovenia (498.3)
2	France (6.0)	Estonia (282.5)	Netherlands (12.6)	Estonia (316.1)
3	Spain (5.2)	United Kingdom (230.7)	Poland (12.1)	Netherlands (304.1)

(1) Belgium, the Czech Republic, Greece, Cyprus, Latvia, the Netherlands and Slovakia, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Latvia, the Netherlands and Slovakia, not available.

(3) Greece, Cyprus and Slovakia, not available.

(4) Greece, France, Ireland, Cyprus, Latvia and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

The highest EU-25 apparent labour productivity and average personnel costs among the construction NACE groups in 2002 were recorded for the operated construction equipment renting activity, with EUR 45 400 per person employed and EUR 30 100 per employee respectively. To some extent this reflects the nature of the activity which is capital intensive and financial and depreciation charges may constitute the main cost elements and these are not considered when calculating gross value added, the gross operating surplus or indicators of productivity or profitability based on these.

Despite high average personnel costs, the wage adjusted labour productivity ratio of operated construction equipment renting was 150.8 %, some 28.5 percentage points above the construction sector average. The gross operating rate for operated construction equipment renting was 24.4 % in the EU-25 in 2002, the highest of the construction NACE groups. As with building completion activities (NACE Group 45.3), the gross operating rate was particularly high in this subsector in Malta (41.2 %) and it was also well above the construction average in Germany (26.5 %). The gross operating rate in operated construction equipment renting was only lower than the construction average in three Member States, most notably in Luxembourg and Lithuania where, in contrast to the EU-25 average, this subsector recorded the lowest level of profitability, according to this indicator, among the five construction subsectors.

activities are related to the secondary market concerned with existing property, although some, such as property developers are active in the primary market closely related to construction.

The wide range of real estate service activities have very different cost structures and revenue streams and care has to be taken comparing them, particularly when trying to measure the size of each subsector. In particular, when enterprises are the owner of a good that they rent or lease, their financial and depreciation charges may constitute the main element of their total costs, but these are not considered when calculating gross value added, the gross

operating surplus or indicators of productivity or profitability based on these.

The real estate market can be divided between residential property and commercial/industrial property. A wide range of information is available concerning residential property and one indicator of the level of activity in this market is lending for house purchases compiled by the ECB. Figure 15.12 shows how the level of such lending, although increasing, was doing so at a progressively weaker rate until it grew by 7.4 % in the first quarter of 2002. From that point in time, the rate of increase stabilised and then picked up to a range of 7.6 % to 8.3 % until the first quarter of 2004.

Since then the pace of growth increased each quarter to reach 11.1 % by the second quarter of 2005. Table 15.15 from the EMF ⁽²⁵⁾ gives an indication of the level of housing market activity, through the number of housing transactions; note that some figures have been revised since the 2004 edition of the present publication.

In the residential property market, the importance of different real estate services, for example agents selling property, or renting agencies, is to some extent determined by the incidence of owner occupation. Owner occupation among households in the EU ⁽²⁶⁾ ranged from 45 % in Germany to 92 % in Hungary - see Table 15.16 overleaf.

STRUCTURAL PROFILE

The EU-25's real estate services sector (NACE Division 70) generated EUR 206.5 billion of value added in 2002 and employed 2.3 million persons. As such, its value added was a little more than half that of the construction sector (NACE Division 45), while its workforce was less than one fifth as large as for construction. This sector contributed 8.0 % to the value added of non-financial services (NACE Sections G to I and K) and 3.4 % to its workforce.

The largest real estate services' sector in the EU-25 was found in Germany (EUR 63.8 billion, or 30.9 % of the EU-25 total), far ahead of the United Kingdom (EUR 31.1 billion, 15.0 %) and France (EUR 26.4 billion, 12.8 %) - see Table 15.17 overleaf. As a proportion of value added in non-financial services, the real estate services sector was largest ⁽²⁷⁾ in Denmark (17.4 %), Sweden (14.6 %), Germany (12.7 %) and Spain (10.1 %) in 2002. Its lowest shares were recorded in Slovenia (1.7 %) and Luxembourg (2.4 %). In employment terms this sector contributed 9.2 % of non-financial services employment in Latvia and 6.1 % in Estonia, but did not exceed 5.0 % in any other Member State ⁽²⁸⁾. The largest workforces in this sector were in the United Kingdom (17.3 % of the EU-25 total), Germany (16.8 %) and France (15.1 %, 2001).

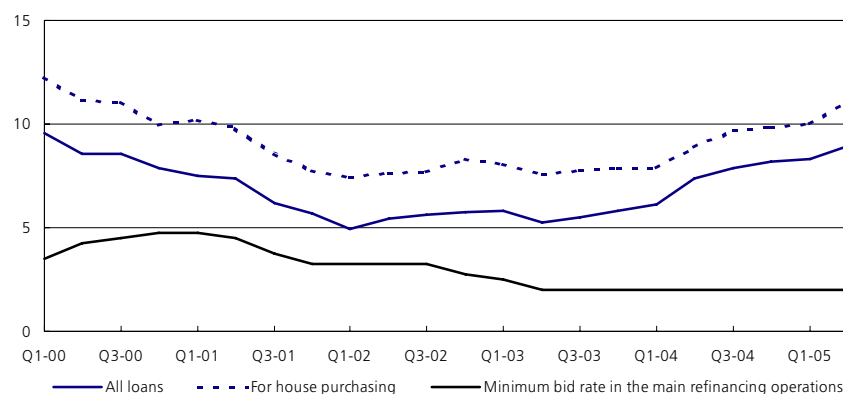
⁽²⁵⁾ EMF (European Mortgage Federation), more information at: <http://www.hypo.org>.

⁽²⁶⁾ The Czech Republic, Estonia, Italy, Cyprus, Lithuania, Portugal and Slovakia, not available.

⁽²⁷⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

⁽²⁸⁾ France, 2001; Greece and Cyprus, not available.

Figure 15.12
Annual growth rate for national stocks of loans by other MFIs (credit institutions, money market funds and other institutions) to households and individual enterprises, euro-zone (%)



Source: European Central Bank (ECB)

Table 15.15
Number of housing transactions (thousands)

	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BE (1)	79	100	96	102	109	108	115	108	111	116	120	121
CZ	:	:	:	:	:	:	:	:	:	:	:	:
DK (2)	85	57	74	77	78	76	71	71	68	68	71	:
DE	:	:	587	633	569	623	567	483	498	500	492	434
EE	:	:	14	23	28	24	26	28	31	29	34	36
EL	:	:	:	:	:	:	:	:	:	:	:	:
ES	:	:	:	:	:	:	:	:	:	:	:	:
FR (3)	599	754	618	734	701	780	863	:	:	:	:	:
IE (4)	31	35	49	61	65	69	79	81	69	93	98	104
IT	429	517	502	484	524	576	640	688	661	754	807	:
CY	:	:	:	:	:	:	:	:	:	:	:	:
LV	:	:	:	:	:	:	:	22	32	41	51	64
LT	:	:	:	:	:	:	:	:	:	:	:	:
LU	3	3	4	4	4	4	5	5	5	5	:	:
HU	:	:	:	:	:	:	:	296	240	353	298	261
MT	:	:	:	:	:	:	:	:	:	:	:	:
NL (5)	209	202	224	259	281	280	292	269	265	269	260	:
AT	:	:	:	:	:	:	:	:	:	:	:	:
PL	:	:	287	294	321	293	321	270	262	243	:	:
PT (6)	100	103	186	:	:	:	227	175	153	168	140	145
SI	:	:	:	:	:	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:	:	:	:	:	:
FI	:	56	68	83	81	90	94	69	69	68	71	74
SE (7)	49	54	42	47	55	49	57	51	51	52	54	56
UK (8)	1 743	1 401	1 137	1 242	1 440	1 347	1 470	1 431	1 457	1 586	1 344	1 785

(1) Excluding transactions on new dwellings and own constructions. (2) Excluding own constructions.

(3) New apartments as principal or secondary residence or residential. (4) Estimate based on number of mortgage loan approvals. (5) Includes commercial transactions. (6) 1985, 1990 and 1995, includes commercial and residential property transactions; urban areas only. (7) One- and two-dwelling buildings. (8) England and Wales.

Source: European Mortgage Federation and national associations

Table 15.16
Housing stock, 2003

	Number of dwellings (thousand) (1)	Dwellings per thousand inhabitants	Type of tenancy (%) (2)			
			Rented	Owner occupied	Coop- erative	Other
BE (3)	4 820	462	31	68	:	2
CZ	4 366	:	:	:	:	:
DK	2 561	484	40	53	7	0
DE (4)	38 925	472	55	45	:	0
EE	624	460	:	:	:	:
EL	5 465	:	20	74	:	6
ES (5)	20 947	513	11	82	:	7
FR	29 495	503	38	56	:	6
IE (3) (6)	1 554	391	18	77	:	5
IT	26 526	:	:	:	:	:
CY	299	421	:	:	:	:
LV	967	417	21	79	0	0
LT	1 292	375	:	:	:	:
LU	176	394	26	67	:	7
HU	4 134	402	7	92	:	1
MT	127	:	26	70	:	4
NL	6 811	419	45	55	:	0
AT (7)	3 280	404	39	58	:	3
PL (8)	11 764	330	24	58	18	0
PT	5 318	508	:	:	:	:
SI	785	:	9	84	:	7
SK (9)	1 885	:	:	:	:	:
FI	2 574	499	34	63	0	3
SE (10)	4 351	485	39	46	15	0
UK	25 617	:	31	69	:	0

(1) Belgium, 2004; Czech Republic, Germany, Greece, France, Cyprus, Poland, Slovenia, Finland and the United Kingdom, 2002; Spain, Italy, Luxembourg and Slovakia, 2001; Malta, 2000. (2) Belgium, France, Germany, Ireland, Luxembourg and Malta, 2002; Greece, Sweden and the United Kingdom, 2001. (3) Tenancy: occupied dwellings. (4) Dwellings: dwelling units in buildings with housing space. Tenancy: excluding former East Germany. (5) Dwellings: estimates. (6) Dwellings: total number of conventional (permanent) habitable residential buildings whether occupied or not. (7) Dwellings: occupied dwellings in main residence only. Tenancy: annual average, principal dwellings only. (8) Tenancy: rental includes the housing stock of municipalities, social housing associations, co-operatives and employers; owner occupied includes dwellings owned by natural persons; cooperatives includes the housing stock of co-operatives. (9) Dwellings: including vacant dwellings. (10) Tenancy: cooperative includes housing co-operatives based on tenants-owning and a small fraction of the dwelling stock consists of co-operative rental dwellings.

Source: National statistical institutes and Government departments, in 'Housing statistics in the European Union, 2004', National board of Housing, Building and Planning, Sweden and Ministry for Regional Development of the Czech Republic

Table 15.17
Real estate activities (NACE Division 70)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added specialisation (EU-25=100) (2)		Non-financial services employment specialisation (EU-25=100) (4)	
	Share of EU-25 value added (%) (1)		Share of EU-25 employment (%) (3)	
1	Germany (30.9)	Denmark (219.2)	United Kingdom (17.3)	Latvia (273.9)
2	United Kingdom (15.0)	Sweden (184.1)	Germany (16.8)	Estonia (182.1)
3	France (12.8)	Germany (159.3)	Spain (10.6)	Sweden (148.3)

(1) Belgium, the Czech Republic, Greece, Cyprus, Latvia, the Netherlands and Slovakia, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Latvia, the Netherlands and Slovakia, not available.

(3) Greece, Cyprus and Slovakia, not available.

(4) Greece, France, Ireland, Cyprus, Latvia and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

An analysis of size class data for 2000 shows that large enterprises had a relatively small impact on the real estate services sector, while micro enterprises dominated. Micro enterprises (with less than 10 persons employed) alone provided 54.7 % of the EU-25's workforce in this sector, the highest proportion recorded by micro enterprises among all of the non-financial business economy NACE divisions, far ahead of the next highest share (45.6 %, 2001) recorded for hotels and restaurants. Despite this dominance by micro enterprises, small enterprises (with 10 to 49 persons employed) provided a further 17.7 % of the workforce and medium-sized enterprises (with 50 to 249 persons employed) some 15.6 %. Consequently, it was large enterprises (with 250 or more persons employed) whose contribution to the workforce was particularly low, as they accounted for just 11.9 % of the total.

EMPLOYMENT CHARACTERISTICS

The very high importance of micro and small enterprises in the real estate services sector reflects the importance of self-employment within this activity. The proportion of paid employees was 66.0 % in the EU-25 in 2002, 15.6 percentage points lower than the non-financial services average. At the NACE division level, this activity had the lowest proportion of paid employees within the whole of the EU-25's non-financial business economy. The below average share of paid employees in the real estate services sector was repeated in every Member State with data available⁽²⁹⁾, except for the Czech Republic (2001), Lithuania and Slovenia, where the share for real estate services was a few percentage points above the non-financial services average, and Poland, where it was more than 20 percentage points higher.

Unlike in construction, an age group analysis of the real estate services labour force shows an age structure very different from the business economy average. Persons aged 15 to 24 made up just 7.3 % of the EU-25's real estate services labour force in 2004, compared with the business economy average of 12.0 %. The age group 25 to 49 was also relatively small in the real estate services labour force at 61.8 %. As such, the age group of the oldest persons, aged 50 or more, was relatively large for real estate services, at 30.9 % compared with a business economy average of 21.2 %. This was the largest proportion of older workers in the labour force among all of the business economy NACE divisions for which data are available, and one of the smallest proportions of younger workers.

Real estate services in the EU-25 had a more balanced workforce in gender terms than services (NACE Sections G to K) as a whole,

⁽²⁹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 15.18

Real estate activities (NACE Division 70)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (services=100) (1)	Proportion of those employed (%)	Index (services=100)	< 25 years (2)	25-49 years (3)	50+ years
EU-25	49.7	89.5	77.6	96.7	7.3	61.8	30.9
BE	39.9	67.7	70.2	89.3	:	64.7	27.4
CZ	51.8	96.7	92.0	97.6	5.2	64.7	30.1
DK	58.5	98.4	73.2	98.6	:	52.3	34.8
DE	48.6	93.3	67.9	92.3	5.7	58.5	35.8
EE	49.1	96.8	67.7	75.0	:	54.3	65.4
EL	:	:	85.6	89.0	:	76.6	:
ES	47.2	84.1	87.9	97.7	8.6	73.5	17.9
FR	44.2	78.5	83.0	97.9	7.5	60.6	32.0
IE	54.4	100.6	85.9	108.9	:	61.5	:
IT	50.4	84.8	80.0	94.9	9.1	69.7	21.3
CY	55.7	105.2	76.5	83.5	:	64.0	29.8
LV	51.1	100.8	77.6	85.7	:	45.4	42.5
LT	35.9	69.0	91.6	97.7	:	54.8	:
LU	46.0	81.9	69.1	81.6	:	72.5	:
HU	44.6	83.0	83.4	88.1	:	60.6	35.0
MT	:	:	:	:	:	:	:
NL	56.1	97.0	59.3	107.9	6.9	65.3	28.4
AT	44.7	88.9	59.1	79.4	:	65.6	27.7
PL	51.0	95.3	90.7	101.0	:	70.5	27.0
PT	62.2	111.8	87.8	94.3	:	60.7	:
SI	60.9	117.5	100.0	109.2	:	90.5	:
SK	53.1	104.2	94.7	98.0	:	78.9	18.4
FI	55.6	103.6	86.0	103.5	12.9	50.1	37.1
SE	68.0	114.7	78.3	102.7	6.1	49.8	44.2
UK	49.5	88.9	72.7	102.5	9.2	58.4	32.4

(1) Lithuania, 2003; Luxembourg, 2002. (2) The Netherlands, 2003. (3) Estonia, 2002.
Source: Eurostat, Labour market, Total employment - LFS series

with male employment accounting for 49.7 % of the total in 2004, compared with a services' average of 55.6 %. There was a relatively high recourse to part-time employment in real estate services, as among all of the business economy NACE divisions, only retail trade, hotels and restaurants, and other business activities (NACE Divisions 52, 55 and 74) reported a higher proportion of their workforce working on a part-time basis. In the EU-25, part-time employment averaged 22.4 % of the real estate services' workforce in 2004, compared with a services' average of 19.7 %.

PRODUCTIVITY AND PROFITABILITY

Average personnel costs in real estate services were EUR 29 000 per employee in the EU-25 in 2002, EUR 3 100 higher than the non-financial services' average. In the majority of the Member States⁽³⁰⁾, average personnel costs were close to the non-financial services' average, with the Netherlands, Ireland, Germany and the United Kingdom recording average personnel costs that were notably

higher, while Malta recorded atypically low average personnel costs in real estate services.

Apparent labour productivity was EUR 89 100 per person employed for real estate services in the EU-25 in 2002, the third highest figure among the non-financial services activities at the NACE division level, after renting activities (NACE Division 71) and water transport services (NACE Division 61). The combination of high apparent labour productivity yet typical average personnel costs resulted in a very high EU-25 wage adjusted labour productivity ratio of 307.0 %. For comparison, this was two and a half times as high as in the construction sector and twice as high as the non-financial services average.

Alongside the high wage adjusted labour productivity ratios, real estate services recorded a high gross operating rate: the gross operating surplus of EUR 162.2 billion was equivalent to 39.0 % of turnover in the EU-25 in 2002. This was 3.3 times as high as the rate in

construction, and 3.5 times as high as the average for non-financial services. Indeed, the gross operating rate was one of the highest recorded for any NACE division in the non-financial business economy, just 1.4 percentage points below the level for renting activities, and 10.5 percentage points below the level for the extraction of crude petroleum and natural gas (NACE Division 11). High values for the gross operating rate were recorded in all Member States, relative to non-financial services averages. Poland was the only Member State where profitability in this sector (according to this measure) was below the non-financial services average, and the gross operating rate was in fact negative (-2.2 %), resulting from personnel costs exceeding value added. Among the other Member States⁽³¹⁾ some exceptionally high gross operating rates were recorded, most notably 93.0 % in Denmark, but also 58.2 % in Germany and 53.4 % in Malta, while Ireland, Austria, Sweden and Slovakia all recorded rates above 40 %.

⁽³¹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

⁽³⁰⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 15.19

Construction (NACE Division 45)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	1 105 719	30 914	16 086	20 042	156 991	1 640	8 700	108 098	148 567	8 853	155 915	1 465	1 405	1 377	2 982	10 862	347
Production (EUR million) (2)	1 094 708	29 993	15 813	20 205	154 053	1 051	9 358	111 448	146 447	8 862	168 002	1 462	1 476	1 365	2 611	6 681	347
Value added at factor cost (EUR million) (3)	384 369	9 493	2 475	7 500	63 805	300	3 471	36 760	54 028	3 062	49 586	794	428	421	1 269	1 908	148
Gross operating surplus (EUR million) (3)	130 637	3 025	713	1 780	11 379	110	2 866	10 999	11 041	1 339	27 857	251	290	136	421	841	63
Purchases of goods and services (EUR million)	: 17 843	12 790	12 852	91 625	1 327	6 017	74 866	94 214	6 250	113 826	668	1 068	970	1 781	8 846	192	
Gross inv. in tangible goods (EUR million)	: 1 877	393	671	3 808	42	: 3 019	4 052	: 7 653	52	66	74	: 451	7				
Number of persons employed (thousands)	12 165	232	376	1 721	1 824	34	91	2 189	1 471	40	1 575	29	45	72	28	241	13
Personnel costs (EUR million) (3)	253 732	6 468	1 771	5 720	52 427	190	1 346	25 313	42 987	1 724	21 730	543	131	285	848	1 068	85
App. labour prod. (EUR thous./pers. emp.) (3)	31.6	37.5	6.6	43.6	35.0	8.8	38.3	16.8	36.7	76.6	31.5	27.1	10.0	5.8	45.9	7.9	11.4
Average pers. costs (EUR thous./employee) (3)	25.8	33.8	6.8	37.0	32.5	5.7	16.4	14.0	33.3	43.8	24.0	20.8	3.1	4.0	31.6	6.0	9.2
Wage adjusted labour productivity (%) (3)	122.3	111.1	96.3	117.7	107.7	154.7	233.1	120.2	110.4	175.1	131.5	130.4	326.4	145.0	145.0	131.7	123.7
Gross operating rate (%) (3)	11.8	9.9	5.2	8.9	7.2	6.7	32.9	10.2	7.4	15.1	17.9	17.2	22.7	9.9	14.1	7.7	18.1
Inv. per person employed (EUR thousand)	: 8.1	1.0	3.9	2.1	1.2	: 1.4	2.8	: 4.9	1.8	1.5	1.0	: 1.9	0.5				
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	68 816	25 465	24 317	26 570	3 350	2 280	16 285	29 408	226 552	1 948	: 5 233	:	:	:	:	20 059	29 670
Production (EUR million)	68 457	25 007	22 630	27 182	3 317	2 237	15 693	30 007	225 458	1 859	: 5 298	:	:	:	:	19 610	29 715
Value added at factor cost (EUR million)	23 141	11 062	6 503	7 018	852	527	5 452	10 252	79 657	406	: 1 186	:	:	:	:	7 115	15 062
Gross operating surplus (EUR million)	6 256	3 156	744	2 617	154	192	1 658	2 476	37 977	161	: 406	:	:	:	:	1 816	2 342
Purchases of goods and services (EUR million)	46 456	14 815	18 168	20 118	2 433	1 754	11 027	19 787	148 328	1 604	: 4 586	:	:	:	:	13 024	14 580
Gross investment in tangible goods (EUR million)	1 437	715	855	3 187	109	75	565	1 099	7 994	132	: 1 355	:	:	:	:	611	:
Number of persons employed (thousands)	475	250	687	434	66	66	122	237	1 307	118	: 354	:	:	:	:	132	274
Personnel costs (EUR million)	16 885	7 907	5 759	4 401	697	335	3 794	7 776	41 681	245	: 780	:	:	:	:	6 125	12 719
App. labour productivity (EUR thous./pers. emp.)	48.7	44.2	9.5	16.2	13.0	8.0	44.6	43.3	60.9	3.4	: 3.3	:	:	:	:	53.7	55.0
Average personnel costs (EUR thous./employee)	41.6	33.8	12.5	11.9	12.5	5.1	34.0	38.2	36.9	2.4	: 2.3	:	:	:	:	54.9	:
Wage adjusted labour productivity (%)	117.1	130.9	75.5	136.2	103.9	156.6	131.1	113.5	165.2	142.9	: 146.9	:	:	:	:	97.9	:
Gross operating rate (%)	9.1	12.4	3.1	9.8	4.6	8.4	10.2	8.4	16.8	8.3	: 7.8	:	:	:	:	9.1	7.9
Investment per person employed (EUR thousand)	3.0	2.9	1.2	7.3	1.7	1.1	4.6	4.6	6.1	1.1	: 3.8	:	:	:	:	4.6	:

(1) Greece and Switzerland, 2001. (2) EU-25, 2001. (3) Belgium, the Czech Republic and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 15.20

Real estate activities (NACE Division 70)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	415 418	5 951	2 513	9 220	94 527	531	: 62 268	73 160	2 221	29 443	:	:	401	353	523	3 587	103
Production (EUR million) (2)	: 4 736	1 693	12 016	90 637	419	:	41 226	65 122	1 816	33 807	:	:	396	341	249	2 092	105
Value added at factor cost (EUR million) (3)	206 545	1 984	528	9 659	63 760	196	: 21 276	26 391	1 211	12 376	:	:	207	135	154	995	62
Gross operating surplus (EUR million) (2)	162 165	1 387	287	8 573	55 059	146	: 17 146	16 743	985	11 243	:	:	131	81	109	687	55
Purchases of goods and services (EUR million) (2)	: 3 379	1 326	4 538	37 981	344	:	51 447	40 999	957	20 063	:	:	197	214	334	2 706	44
Gross investment in tangible goods (EUR million) (3)	: 1 298	997	2 082	19 777	199	:	11 892	2 498	597	4 917	:	:	201	217	:	1 155	20
Number of persons employed (thousands) (4)	2 317	26	45	46	390	12	: 246	315	13	237	:	:	29	16	2	61	2
Personnel costs (EUR million) (2)	44 380	598	241	1 085	8 701	51	: 4 130	8 357	226	1 132	:	:	76	54	45	309	7
App. labour productivity (EUR thous./pers. emp.) (2)	89.1	65.2	12.1	208.2	163.6	16.8	: 86.3	79.6	94.2	52.1	:	:	7.1	8.5	91.9	16.2	25.4
Average personnel costs (EUR thous./employee) (2)	29.0	32.9	7.3	31.5	36.9	4.9	: 22.5	34.8	34.9	27.6	:	:	3.3	3.6	34.7	7.1	6.3
Wage adjusted labour productivity (%) (2)	307.0	198.2	166.3	660.1	443.7	344.3	: 383.1	228.9	269.9	188.7	:	:	217.2	238.4	264.8	227.7	400.7
Gross operating rate (%) (2)	39.0	26.7	15.5	93.0	58.2	27.4	: 27.5	24.4	44.4	38.2	:	:	32.7	22.9	20.9	19.1	53.4
Investment per person employed (EUR thousand) (2)	: 42.7	22.9	44.9	50.8	17.0	:	48.3	69.8	46.5	20.7	:	:	6.9	13.7	:	18.8	8.1
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	21 506	8 614	8 091	3 571	228	508	4 793	20 443	55 661	135	: 357	:	:	:	:	9 992	5 432
Production (EUR million)	21 246	7 369	8 228	3 367	236	497	4 791	21 108	58 769	143	: 365	:	:	:	:	9 985	5 296
Value added at factor cost (EUR million)	11 167	4 596	1 647	1 007	74	276	2 464	10 508	31 085	54	: 183	:	:	:	:	5 240	3 569
Gross operating surplus (EUR million)	8 405	3 681	-179	655	34	206	1 847	8 467	20 772	31	: 133	:	:	:	:	4 371	2 472
Purchases of goods and services (EUR million)	11 588	4 415	5 629	2 651	175	235	2 352	10 768	27 165	99	: 170	:	:	:	:	4 868	1 740
Gross investment in tangible goods (EUR million)	3 268	6 139	1 619	951	28	91	1 802	10 696	17 489	89	: 294	:	:	:	:	5 806	:
Number of persons employed (thousands)	76	33	144	31	3	12	21	78	400	12	: 21	:	:	:	:	20	18
Personnel costs (EUR million)	2 762	914	1 825	352	40	70	617	2 041	10 313	23	: 50	:	:	:	:	869	1 097
App. labour productivity (EUR thous./pers. emp.)	146.1	141.2	11.5	32.7	25.5	22.7	116.7	135.5	77.6	4.7	: 8.5	:	:	:	:	257.9	200.8
Average personnel costs (EUR thous./employee)	41.5	32.7	16.0	15.1	15.4	5.9	32.3	38.1	32.4	2.4	: 2.6	:	:	:	:	48.9	:
Wage adjusted labour productivity (%)	351.7	431.9	71.5	217.4	166.2	383.5	361.0	355.4	239.9	196.0	: 330.0	:	:	:	:	527.2	:
Gross operating rate (%)	39.1	42.7	-2.2	18.3	14.8	40.6	38.5	41.4	37.3	23.2	: 37.3	:	:	:	:	43.7	45.5
Investment per person employed (EUR thousand)	42.8	188.6	11.3	30.9	9.8	7.5	85.3	137.9	43.7	7.7	: 13.7	:	:	:	:	285.7	:

(1) Switzerland, 2001. (2) Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001. (4) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Motor trades



The activities covered by this chapter are very different in terms of the frequency of purchase of the goods and services offered. Indeed, in contrast to the retail sale of automotive fuel, the purchase of motor vehicles is usually the result of a long-term process, the collection of information and comparison between different vehicles and different suppliers. However, retailing of motor vehicles and motorcycles on the one hand, and repair on the other hand, are to some extent substitutes, in that the purchase of a replacement vehicle, whether new or used, can often be postponed by repairing an existing vehicle.

The generally high level of competition and the importance of the legislative framework (mainly concerning relations between manufacturers and distributors, environmental issues, as well as taxes) are common characteristics to most of the motor trades activities presented in the following pages. There is a strong link between motor vehicles manufacturers and distributors (see Subchapter 16.1) and also between the main oil suppliers and automotive fuel distributors (see Subchapter 16.2).

STRUCTURAL PROFILE

Motor trades (NACE Division 50) value added in the EU-25 was EUR 135.7 billion in 2002 and represented 15.1 % of total value added for distributive trades (NACE Section G). Motor vehicles and motorcycles distribution (NACE Groups 50.1 to 50.4) accounted for more than 90 % of the EU-25's value added for the motor trades sector (see Subchapter 16.1), while the remaining share (7.8 %) of wealth creation for this sector was generated by the retail sale of automotive fuel (see Subchapter 16.2). In fact, more than half of motor trades' value added (56.6 %) was generated by the sale of motor vehicles (NACE Group 50.1), while the second largest part of the motor trades sector was the maintenance and repair of motor vehicles (NACE Group 50.2, 21.2 %). The same two activities provided the largest contribution to EU-25 motor trades' employment, namely 40.8 % for the sale and 32.1 % for the maintenance and repair of motor vehicles. A comparison of these shares indicates very different rates of labour productivity between the two largest motor trades' subsectors, which is mainly due to the different characteristics of these two activities, the former being concerned with the sale of an expensive capital good and the latter with providing labour intensive services. The third largest motor

Motor trades (NACE Division 50) cover the wholesale, retail sale and repair of motor vehicles and motorcycles, as well as the retailing of automotive fuels and lubricants.

NACE

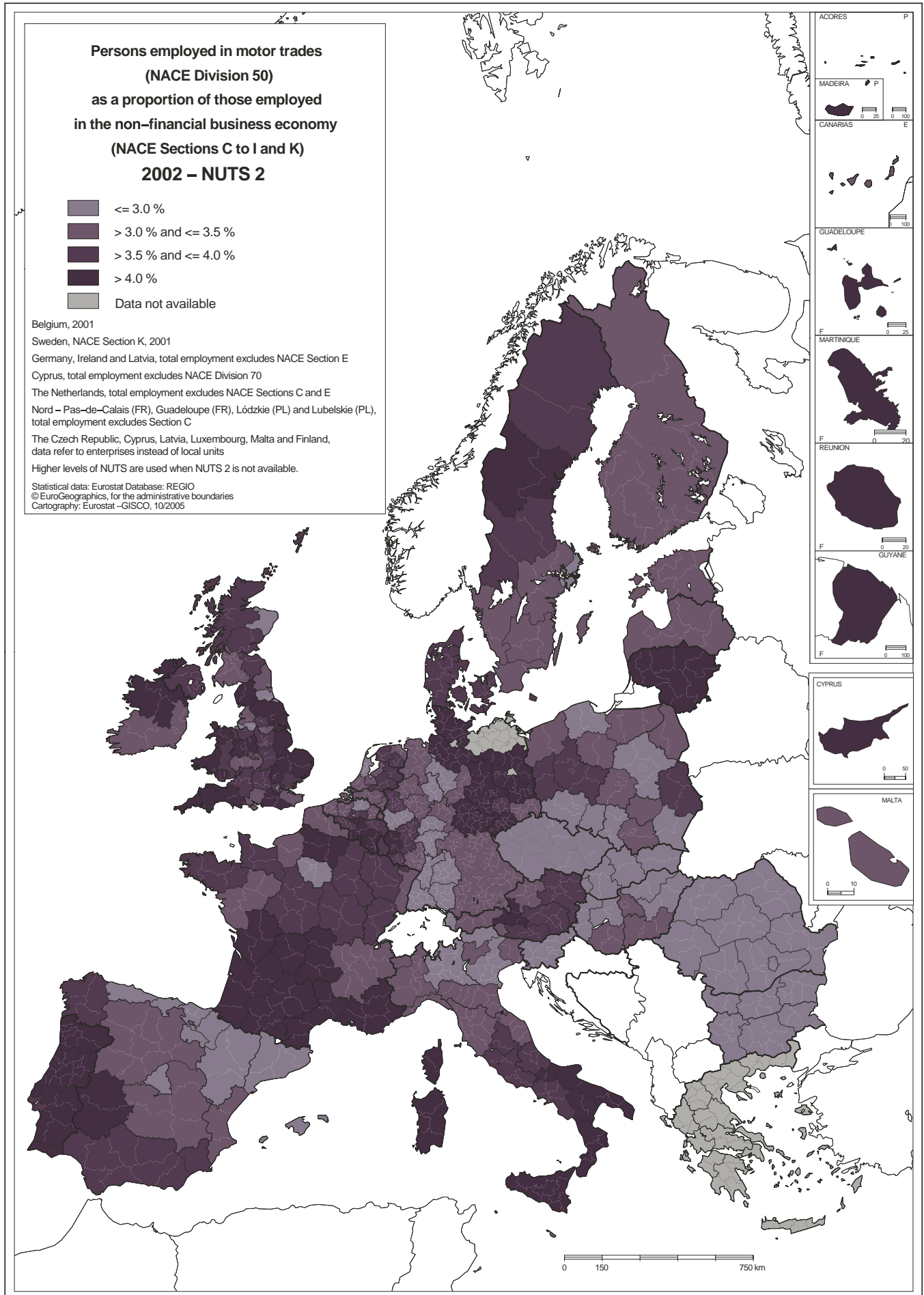
- 50: sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel;
- 50.1: sale of motor vehicles;
- 50.2: maintenance and repair of motor vehicles;
- 50.3: sale of motor vehicle parts and accessories;
- 50.4: sale, maintenance and repair of motorcycles and related parts and accessories;
- 50.5: retail sale of automotive fuel.

trades subsector was the sale of parts and accessories (NACE Group 50.3) which contributed 12.5 % of motor trades value added. As such these activities relating to motor vehicles (NACE Groups 50.1 to 50.3) collectively contributed 90.3 % of the EU-25's motor trades value added compared with just 2.0 % for the equivalent activities for motorcycles (NACE Group 50.4).

Table 16.1 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Motor trades	135 728	5.2	3 690	5.4
Motor vehicles and motorcycles distribution	125 256	4.8	3 263	4.7
Retail sale of automotive fuel	10 543	0.4	422	0.6

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics



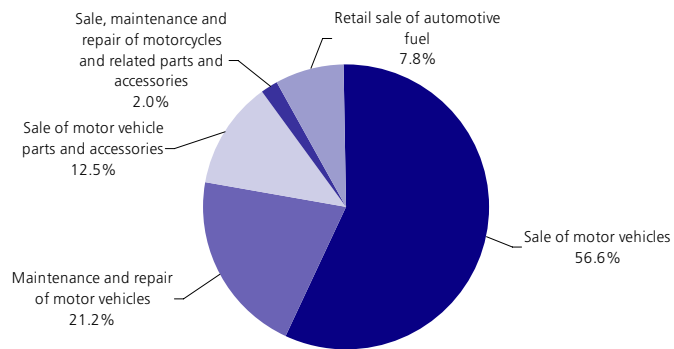
Turning to the largest Member States for the motor trades sector in 2002, the United Kingdom contributed around a quarter (25.1 %) of EU-25 value added and Germany more than one fifth (22.1 %) (1). Due to the importance of their national motor trades sector within the distribution sector as a whole, Germany and the United Kingdom were also among the most specialised Member States for motor trades, relative to non-financial services as a whole, after Portugal, Lithuania, Slovenia and Hungary. There were 3.7 million persons employed in the EU-25's motor trades sector in 2002, a slightly lower share of total employment within the distribution sector (13.2 %) compared with the contribution of motor trades to value added. The United Kingdom was the largest employer among the EU-25 Member States (2), with 610 000 persons employed in motor trades, or 16.5 % of the EU-25 total. Germany was the second largest employer, with 578 800 persons employed (15.7 % of the EU-25 total), followed by Italy and France (respectively 459 200 and 438 200 persons employed). However, in Lithuania and Luxembourg, employment in the motor trades sector represented 18.0 % and 17.7 % of total employment in the distribution sector, the highest proportions recorded among the Member States. Slovakia registered the lowest proportion, just 7.4 % of its distribution trades employment.

Short-term statistics provide a picture of the evolution of the motor trades sector in the EU-25 over the period 1998 to 2004, in terms of turnover and employment indices. While the annual growth rate for the turnover index (in current prices) was 4.3 % between 1998 and 1999, there was a slowdown in the rhythm of increase through to 2001, when growth was just 2.1 % (compared with the year before). From 2002 to 2004, the turnover index growth rates steadily increased from 3.1 % in 2002 to a faster pace in 2004, when growth of 5.8 % was registered. Note that these indices for turnover need to be interpreted with some care, as they include the effects of price increases (and although inflationary pressures were generally weak, some of the gains reported are a result of changes in price levels).

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

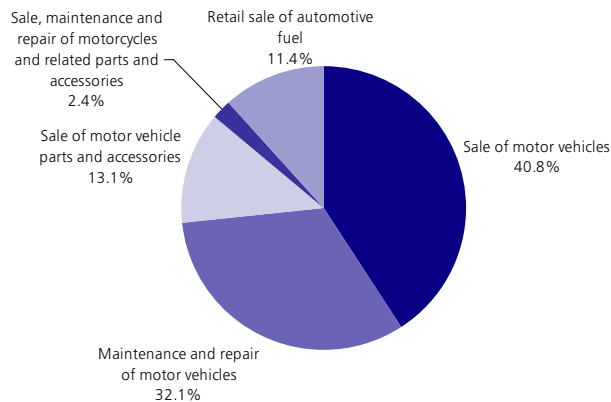
(2) Greece, not available.

Figure 16.1
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 16.2
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Breakdown of sectoral employment, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 16.2
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added specialisation (EU-25=100) (2)		Non-financial services employment specialisation (EU-25=100) (4)	
	Share of EU-25 value added (%) (1)	Share of EU-25 employment (%) (3)	Share of EU-25 value added (%) (1)	Share of EU-25 employment (%) (3)
1	United Kingdom (25.1)	Portugal (136.7)	United Kingdom (16.5)	Lithuania (180.1)
2	Germany (22.1)	Lithuania (135.5)	Germany (15.7)	Portugal (156.9)
3	France (12.4)	Slovenia (129.9)	Italy (12.4)	Slovenia (116.3)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

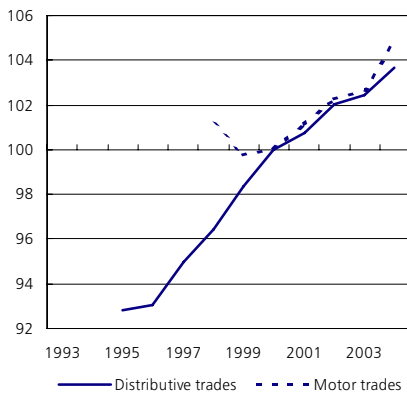
(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

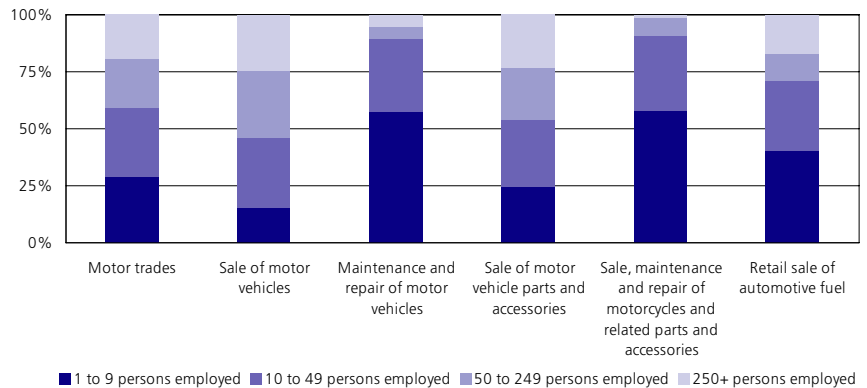
Figure 16.3
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Evolution of employment, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

The index of employment for motor trades in the EU-25 contracted by 1.3 % between 1998 and 1999. In 2000, there was a modest gain, as the index rose 0.2 %, followed by two years of more marked increases of 1.1 % each year. This was followed by modest growth of 0.4 % in 2003, while the fastest pace of growth observed over the years for which data are available was 2.1 % in 2004. For comparison, the EU-25's distribution sector as a whole showed somewhat different developments over the same period of observation. While 1999 was marked by a fall in the employment index for motor trades, no reduction was registered for the equivalent index in the distribution sector and only in 2001 and 2004 did the employment index show stronger growth for motor trades than for the distribution sector as a whole.

Figure 16.4
Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Micro (from 1 to 9 persons employed) and small enterprises (from 10 to 49 persons employed) together generated the majority (59.3 %) of the EU-25's motor trades value added in 2001. The importance of micro and small enterprises in the wealth creation of the EU-25's motor trades sector was notably higher than in wholesale trade (NACE division 51) or retail trade (NACE Division 52). Moreover, among all the non-financial services NACE divisions, the EU-25's motor trades sector had the second largest proportion of value added generated by these two enterprise size classes in 2001, after hotels and restaurants (NACE Division 55). More recent SBS size class data are available for 2002 for several Member States. These showed that together micro and small enterprises generated more than half of the value added in all but one of the 15 Member States with available data⁽³⁾. In six Member States, micro and small enterprises together generated between 50 % and 60 % of motor trades value added, while proportions ranged from 60 % to 76 % in seven others, and reached 85.8 % in Italy (compared to 79.0 % for the Italian distribution sector as a whole). At the other end of the spectrum, in the United Kingdom, large enterprises (250 and more persons employed) accounted for 41.6 % of value added, less than for the United Kingdom's retail trade sector, but more than for wholesale trade.

⁽³⁾ Belgium, the Czech Republic, Estonia, Greece, France, Latvia, Luxembourg, Slovenia, Slovakia and Finland, not available.

EMPLOYMENT CHARACTERISTICS

Labour Force Survey data for the motor trades sector showed different employment characteristics compared to the other distribution activities. This was particularly the case when considering the gender breakdown and the importance of full-time employment for motor trades. Indeed, in 2004, men represented 82.0 % of the EU-25's motor trades' workforce, a proportion that was 43.3 percentage points higher than for retail trade and 14.7 percentage points higher than for wholesale trade. The high share of men in motor trades employment was confirmed across all the Member States, where men accounted for at least 13.5 percentage points more of the workforce in motor trades than in distributive trades as a whole. Most of the persons employed in the EU-25's motor trade sector in 2004 worked full time (90.6 %), a higher proportion than for the two other distributive trades. A breakdown by age of the workforce for the EU-25's motor trades sector shows that 16.2 % of those employed were aged between 15 and 24, some 63.5 % between 25 and 49, while the remainder were persons aged 50 or more; these proportions were very similar to the average for the distribution sector as a whole.

According to structural business statistics, among the persons employed in the EU-25's motor trade sector in 2002, 80.9% were paid employees, almost the same proportion as the average in the distribution sector and the non-financial services sector.

Table 16.3

Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	82.0	147.6	90.6	112.8	16.2	63.5	20.3
BE	86.2	146.4	92.4	117.6	15.9	70.7	13.4
CZ	85.3	159.4	97.8	103.8	12.2	67.4	20.4
DK	81.5	137.2	82.3	110.8	26.2	50.0	23.8
DE	78.0	149.8	88.0	119.6	19.0	59.5	21.5
EE	70.2	138.6	92.6	102.7	:	59.4	:
EL	86.4	142.3	98.4	102.4	11.7	69.5	18.8
ES	87.2	155.4	96.5	107.2	16.0	65.7	18.3
FR	78.3	139.0	93.0	109.7	17.5	62.5	20.0
IE	81.2	149.9	87.4	110.8	24.2	57.4	18.4
IT	84.6	142.4	92.7	110.0	9.4	71.6	19.0
CY	84.6	159.6	93.4	102.0	11.6	61.8	26.6
LV	84.7	167.0	91.9	101.4	:	69.9	20.9
LT	79.5	150.9	94.4	100.8	13.8	83.6	:
LU	79.3	133.8	93.2	110.0	14.2	74.1	:
HU	86.2	160.4	97.7	103.2	9.4	76.1	14.6
MT	91.0	128.3	96.6	107.5	:	65.0	:
NL	79.8	137.9	70.4	128.1	21.7	58.5	19.7
AT	81.5	162.0	92.4	124.1	28.5	59.7	11.8
PL	84.6	158.0	92.0	102.4	16.5	67.4	16.2
PT	84.2	151.3	96.5	103.7	11.7	65.6	22.7
SI	81.3	157.0	96.0	104.8	17.9	65.8	16.3
SK	89.7	176.0	98.4	101.8	13.1	73.2	13.7
FI	81.2	151.2	90.7	109.1	17.5	61.2	21.3
SE	84.8	143.0	83.1	109.0	12.4	60.6	26.9
UK	81.0	145.5	85.7	120.8	17.7	56.0	26.3

(1) Lithuania and Luxembourg, 2003.

(2) Latvia, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's motor trades sector was EUR 36 800 per person employed in 2002, EUR 4 600 above the average for the distribution sector as a whole. The sale of motor vehicles recorded the highest level of apparent labour productivity (EUR 51 500) among the NACE groups that make-up the motor trades sector. Average personnel costs per employee were EUR 23 600 in the EU-25's motor trade sector in 2002, reaching EUR 27 700 for the sale of motor vehicles. The lowest average personnel costs per employee among the NACE groups that make-up the EU-25's motor trades sector was posted by the retail sale of automotive fuel, at EUR 15 400. Wage adjusted labour productivity was 156.0 % in the EU-25's motor trade sector in 2002, while the retail sale of motor vehicles (184.6 %) and the retail sale of automotive fuel (161.8 %) registered a higher ratio of apparent labour productivity to average personnel costs. Among the Member States, average personnel costs in Latvian motor trades were covered 280.6 % by average value added per person

Table 16.4

Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	United Kingdom (55.9)	Belgium (35.4)	Latvia (280.6)	Malta (12.0)
2	Germany (51.9)	Sweden (34.9)	Malta (209.5)	Germany (11.0)
3	Luxembourg (51.3)	Finland (31.9)	United Kingdom (202.5)	United Kingdom (8.5)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

employed, the highest rate in 2002 ⁽⁴⁾. Malta and the United Kingdom also recorded wage adjusted labour productivity rates in excess of 200 %.

⁽⁴⁾ Belgium, the Czech Republic, France, 2001; Greece, not available.

16.1: MOTOR VEHICLES AND MOTORCYCLES DISTRIBUTION

These activities cover the wholesale, retail and commission sale of new and used motor vehicles (NACE Group 50.1) and motorcycles (part of NACE Group 50.4), as well as parts and accessories (NACE Group 50.3). The distribution of lorries, trailers and caravans is also included.

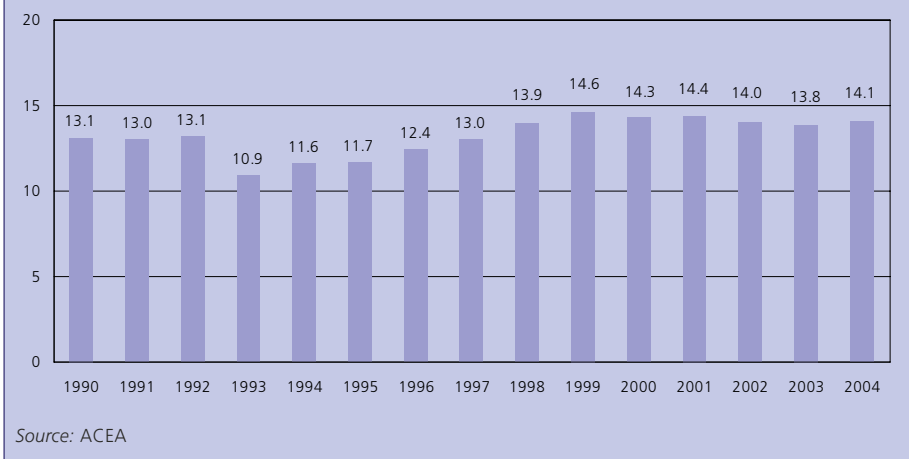
This subchapter also covers the maintenance and repair of motorcycles (the remainder of NACE Group 50.4) and of motor vehicles (NACE Group 50.2). This includes all types of repairs (mechanical, bodywork and electrical), spraying and painting, regular servicing, as well as the installation of replacement parts and accessories. Equally, the data presented cover tyre repair and fitting, towing, roadside assistance and car cleaning services. The renting of motor vehicles is not covered (see Chapter 21).

An aggregate of NACE Groups 50.1 to 50.4 for the whole subchapter is hereafter referred to as motor vehicles and motorcycles distribution, while NACE Groups 50.1 to 50.3 together are referred to as motor vehicles distribution and NACE Group 50.4 as motorcycles distribution.

While purchases of passenger cars, motorcycles and caravans are often made by the final consumer (households), large-scale business customers sometimes buy cars directly from manufacturers, and for commercial vehicles and lorries business customers dominate. The annual number of new car registrations provides information on the development of the market, which is closely linked to the general situation of the economy – see Figure 16.5 for more information on new car registrations in the EU-15.

Supply, distribution and servicing arrangements have traditionally benefited from a block exemption from EU competition rules. Since October 2002 a new regime entered into force, with a one-year transition period allowing for

Figure 16.5
New car registrations, EU-15 (millions)



the adaptation of existing contracts. The aim of the new rules was essentially to increase price competition in new vehicle sales, allowing new ways of selling cars, facilitating cross-border purchases of new vehicles, and providing more choice for consumer in after-sales market. By 30 September 2005, location clauses were due to be abolished and dealers were free to set-up secondary sales outlets in other areas of the EU, as well as their own countries. The new rules mean that dealers are able to market their services and reach customers in different countries, while they may also sell more than one brand of car at the same site (multi-franchising).

According to the European Commission's latest report⁽⁵⁾ on car prices based on 2004 figures, pre-tax prices in the euro zone were generally lowest in Finland and most expensive in Germany. Looking at the EU-25, cars were less expensive on average in the Member States that joined the EU in 2004, with Estonia being the cheapest market, replacing Poland that

⁽⁵⁾ See European Commission press release IP/04/1003 from 29 July 2004, more information at: http://europa.eu.int/comm/competition/car_sector/price_diffs/.

stood out as the cheapest (before taxes) place to buy a car according to the 2003 survey. According to this source, at the end of 2004 car prices were just 0.5 % higher than at the end of 2003 in the EU-25, and 0.9 % higher in the euro-zone. Car prices decreased in Germany (-0.1 %), the United Kingdom (-1.2 %) and the Czech Republic (-6.0 %) between 2003 and 2004, while prices increased in France (1.1 %) and Italy (0.8 %).

The activity of repair of motor vehicles is essentially made up of enterprises specialising in fitting replacement parts, repairs and motor related services, such as towing or washing.

STRUCTURAL PROFILE

The EU-25's motor vehicles and motorcycles distribution sector (NACE Groups 50.1 to 50.4) generated EUR 125.3 billion of value added in 2002, which represented 92.3 % of the motor trades total (NACE Division 50). The sector employed 3.3 million persons in the EU-25, which was 88.4 % of the motor trades' total.

The United Kingdom and Germany were the two largest Member States in the motor vehicles and motorcycles distribution sector,

Table 16.5

Motor vehicles and motorcycles distribution (NACE Groups 50.1, 50.2, 50.3 and 50.4) Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Motor vehicles and motorcycles distribution	125 256	4.8	3 263	4.7
Sale of motor vehicles	76 880	3.0	1 506	2.2
Maintenance and repair of motor vehicles	28 731	1.1	1 186	1.7
Sale of motor vehicle parts and accessories	16 926	0.7	485	0.7
Sale, maintenance and repair of motorcycles and related	2 719	0.1	87	0.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

both in terms of value added and employment. They together accounted for 48.4 % of the EU-25's value added and 33.1 % of EU-25 employment. France generated 13.0 % (2001) of the EU-25's value added while no other Member State recorded a double-digit share. In 2002, France accounted for 12.7 % of EU-25 employment in this sector and Italy 12.2 %.

As noted in the overview of this chapter, the sale (NACE Group 50.1) and maintenance and repair (NACE Group 50.2) of motor vehicles were the two largest activities in motor trades in the EU-25 in terms of value added and employment, with the sale of motor vehicles generating 2.7 times as much value added as maintenance and repair in 2002. The sale of motor vehicles generated 61.4 % of the motor vehicles and motorcycles distribution sector's value added in 2002 and maintenance and repair accounted for a further 22.9 %. The importance of new and used car markets compared with repair and maintenance markets varied among the Member States⁽⁶⁾. Indeed, the ratio of sales to repair and maintenance in value added terms was highest in Luxembourg (6.6) and Hungary (6.4), followed by Ireland (5.3) and the Netherlands (5.2). The lowest ratios were recorded in Italy and Cyprus (both 0.9), where the repair and maintenance of vehicles generated slightly more value added than motor vehicle sales.

The sale of motor vehicle parts and accessories (NACE Group 50.3) was the third largest subsector of the motor vehicles and motorcycles distribution sector, with 13.5 % of value added and 14.8 % of employment. However, this subsector accounted for more than 20 % of the motor vehicles and motorcycles distribution sector in Estonia, Poland and Finland and this proportion reached 39.8 % in Latvia and 42.3 % in Lithuania.

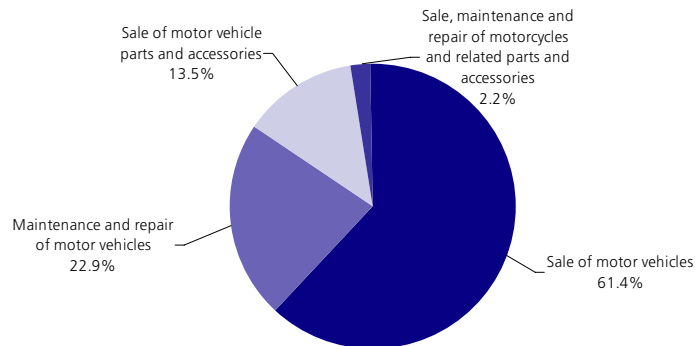
The motorcycles distribution subsector (NACE Group 50.4) was the smallest part of the motor vehicles and motorcycles distribution sector in the EU-25, generating 2.2 % of value added and providing 2.7 % of employment. Among the Member States, the only Member States where the motorcycles distribution subsector accounted for 2.0 % or more of value added in the motor vehicles and motorcycles distribution sector were Italy, France, the Netherlands, Sweden, Portugal and Finland⁽⁷⁾.

Employment in the EU-25's motor vehicles and motorcycles distribution sector in 2001 was mainly provided by micro (from 1 to 9 persons employed) and small enterprises (from 10 to 49 persons employed) as they together employed 72.3 % of the workforce, compared with 61.1 % for distributive trades (NACE Sections G) as a whole.

⁽⁶⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

⁽⁷⁾ Belgium, the Czech Republic and France, 2001; Estonia and Greece, not available.

Figure 16.6 Motor vehicles and motorcycles distribution (NACE Groups 50.1, 50.2, 50.3 and 50.4) Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 16.6 Motor vehicles and motorcycles distribution (NACE Groups 50.1, 50.2, 50.3 and 50.4) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (25.4)	Portugal (132.2)	United Kingdom (16.7)	Lithuania (158.3)
2	Germany (23.0)	Germany (118.9)	Germany (16.4)	Portugal (153.9)
3	France (13.0)	Hungary (115.2)	France (12.7)	Slovenia (112.8)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 16.7 Motor vehicles and motorcycles distribution (NACE Groups 50.1, 50.2, 50.3 and 50.4) Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	United Kingdom (58.5)	Sweden (36.3)	Latvia (273.8)	Malta (14.0)
2	Germany (53.9)	Belgium (36.0)	United Kingdom (201.6)	Germany (11.0)
3	Luxembourg (53.5)	Finland (33.8)	Malta (192.1)	Latvia (9.9)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity per person employed in the EU-25's motor vehicles and motorcycles distribution sector was EUR 38 400 in 2002, about EUR 6 200 higher than for the distribution sector as a whole. Average personnel costs were EUR 24 700 per employee in 2002, EUR 2 400 above the average for the distribution sector. Value added represented 156.0 % of personnel costs (adjusted for the ratio of employees to persons employed) in the EU-25's motor vehicles and motorcycles distribution sector in 2002, a ratio that was 12.0 percentage points above the average for the distribution sector. Among the subsectors, apparent labour productivity was by far the

highest for the sale of motor vehicles subsector (NACE Group 50.1) at EUR 51 100 per person employed, while the maintenance and repair of motor vehicles subsector (NACE Group 50.2) had the lowest level of productivity using this measure (EUR 24 500). The same two subsectors had the highest and lowest wage adjusted labour productivity ratios, at 184.6 % for the sale of motor vehicles subsector and 121.7 % for the maintenance and repair of motor vehicles subsector.

16.2: RETAIL SALE OF AUTOMOTIVE FUEL

This subsector covers the retail sale of automotive fuel, lubricating and cooling products for motor vehicles and motorcycles (NACE Group 50.5). It does not include the wholesale trade of automotive fuel.

Dealer owned and dealer operated service stations are the most frequent categories of automotive fuel retailers found, many of which operate on the basis of an exclusive purchasing agreement, according to Europa (the European Petroleum Industry Association). Company owned and dealer operated service stations are the second largest category, under which the contractual relationship between the petroleum supplier and the dealer varies (exclusive purchasing or agency for example), as does the way in which the service station property is made available to the dealer. The third and least common category is company owned and company operated service stations, which are owned and operated by the petroleum supplier whose brand they bear.

The activity of the automotive fuel sector is influenced by the price of crude oil which rose strongly in 2004 and 2005 – see Subchapter 2.1. The price of crude oil, the extent of spare capacity in refineries, the level of stocks, and the extent of taxes on fuel all have an important impact on the price paid by retailers and consumers. The Directorate-General of the European Commission for Transport and Energy collects information on the retail price of unleaded petrol and automotive diesel (as paid at the pump). This shows that the price of a litre of diesel (including VAT and other taxes) varied considerably between the Member States during the first half of 2005, from a high of EUR 1.20 in the United Kingdom to EUR 0.70 in Estonia. The range of prices for unleaded petrol (95 RON) was even wider, with the highest price per litre in the Netherlands (EUR 1.25) and the lowest price once again recorded in Estonia (EUR 0.63). Note that the tax and VAT levied on diesel was lower (as a proportion of the final price) than for unleaded petrol in each of the Member States in the first half of 2005; this helps to explain why diesel prices were lower than unleaded petrol prices in the majority of the Member States.

Table 16.8

Retail sale of automotive fuel (NACE Group 50.5)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (21.4)	Lithuania (678.4)	United Kingdom (15.7)	Lithuania (350.4)
2	Spain (13.9)	Latvia (424.3)	Italy (14.2)	Latvia (266.3)
3	Italy (13.7)	Slovenia (387.6)	Spain (11.9)	Estonia (237.3)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Other factors influencing the retail sale of automotive fuel include competition in the petroleum retailing market (both among fuel retailers and from other retailers, such as supermarkets), social changes (for example, in terms of the demand for shopping outside of traditional hours), legal requirements relating to environmental protection, and health and safety issues. Some of these have resulted in an expansion of the variety of goods and services retailed alongside automotive fuels, automated payments outside of normal opening hours, and longer opening hours.

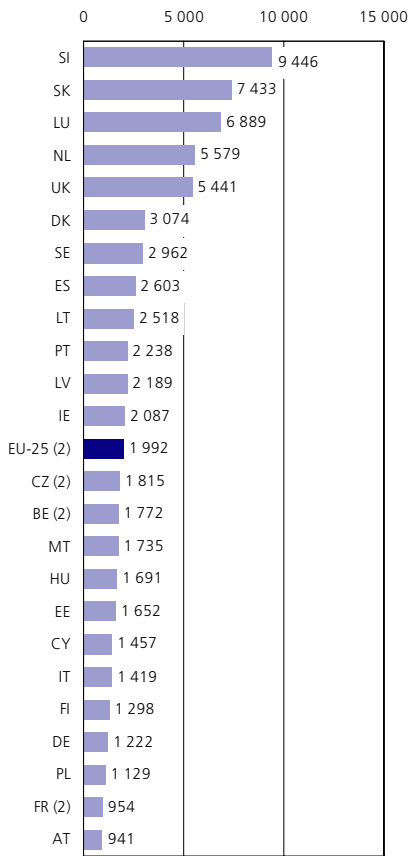
STRUCTURAL PROFILE

Value added from the retail sale of automotive fuel (NACE Group 50.5) in the EU-25 was EUR 10.5 billion in 2002, equivalent to 7.8 % of the motor trades' total. The United Kingdom generated the largest proportion (21.4 %) of the EU-25 total, followed by Spain (13.9 %) and Italy (13.7 %). France and Germany contributed relatively small proportions of the EU-25's value added, reflecting the structure of automotive fuel retailing in these Member States: in France, for example, a large proportion of fuel is sold through service stations belonging to major food retailers, and this is classified within retail trade (NACE Division 52) rather than in the retailing of automotive fuels.

There were 422 200 persons employed in the EU-25's automotive fuel retail sector in 2002 (11.4 % of the motor trades total), with the largest proportion in the United Kingdom (15.7 % of the EU-25's total), followed by Italy (14.2 %), Spain (11.9 %) and Germany (10.4 %).

Annual short-term statistics show the development of the EU-25's turnover index (in current prices) for the retail sale of automotive fuel over the period 1998 to 2004. The index contracted in 2001 and 2002 by 1.0 % and 0.8 % respectively. Except for these two years the turnover index recorded growth of at least 4.6 % per annum over the period observed, a faster rhythm in each year than that recorded for motor trades as a whole. The most recent increase for 2004 saw turnover rise by 6.2 %. Note that the turnover index can only be provided in current prices and therefore includes information on price changes. As such, recent increases in oil prices have to be considered when analysing this data as the volume of automotive fuel may well have fallen, while sales in value terms rose (due to the significant increase in price) – see Figure 2.8 in Subchapter 2.1 for an overview of the evolution of the price of Brent crude oil from 1998 to 2005.

Figure 16.7
Retail sale of automotive fuel
(NACE Group 50.5)
Turnover per enterprise, 2002
(EUR thousand) (1)



(1) Greece, not available.
 (2) 2001.

Source: Eurostat, Industry, trade and services/Industry, trade and services - horizontal view/Structural Business Statistics (Industry, Construction, Trade and Services)

Figure 16.7 shows the average size of enterprises in terms of turnover. Slovenia, Slovakia and Luxembourg stood out from the rest of the Member States as having the highest average turnover per enterprise (at least EUR 6.9 million of turnover per enterprise). At the other end of the spectrum, were Austria and France.

Table 16.9
Retail sale of automotive fuel (NACE Group 50.5)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Malta (44.8)	Sweden (29.0)	Malta (375.2)	Germany (11.5)
2	Luxembourg (44.0)	Belgium (24.9)	Slovakia (366.7)	Malta (7.5)
3	Sweden (42.4)	Luxembourg (24.1)	Latvia (293.9)	Latvia (6.6)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for the EU-25's automotive fuel retail sector was EUR 25 000 per person employed in 2002, while average personnel costs were EUR 15 400 per employee. As a result, value added represented 161.8 % of personnel costs, once adjusted for the ratio of persons employed to employees.

Table 16.10

Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel (NACE Division 50)

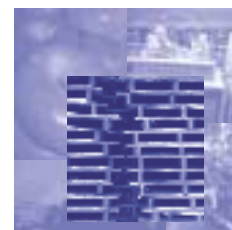
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	1 053.7	51.7	10.6	29.9	139.7	1.3	:	89.4	137.6	13.5	144.7	1.4	1.1	1.8	3.7	10.5	0.5
Production (EUR billion) (2)	260.0	7.8	1.9	19.7	43.8	0.3	:	20.2	31.5	2.1	51.1	0.4	0.3	0.4	0.5	2.2	0.1
Value added at factor cost (EUR billion) (3)	135.7	3.5	0.6	2.4	30.0	0.1	:	10.2	16.2	1.4	12.9	0.2	0.1	0.2	0.3	0.9	0.1
Gross operating surplus (EUR billion) (3)	65.4	1.4	0.3	0.7	15.4	0.1	:	3.7	3.6	0.6	7.0	0.1	0.1	0.1	0.2	0.5	0.1
Purchases of goods and services (EUR billion) (2)	866.4	47.5	7.6	15.9	109.0	1.2	:	80.6	117.1	12.4	132.9	1.2	0.9	1.6	3.4	9.9	0.5
Gross investment in tangible goods (EUR million) (3)	:	789	239	410	2 322	29	:	2 314	1 905	148	2 040	16	43	76	:	345	8
Number of persons employed (thousands)	3 690	75	90	63	579	11	:	362	438	34	459	8	18	35	7	83	4
Personnel costs (EUR million) (3)	70 366	2 051	382	1 649	14 649	68	:	6 477	12 546	720	5 878	122	48	97	191	393	26
App. labour productivity (EUR thous./pers. emp.) (3)	36.8	43.2	7.4	38.0	51.9	11.4	:	28.2	35.9	39.2	28.1	25.2	7.8	5.3	51.3	11.2	23.9
Average personnel costs (EUR thous./employee) (3)	23.6	35.4	6.9	29.0	28.5	6.2	:	21.4	29.8	24.6	24.3	18.6	2.8	3.0	31.3	6.1	11.4
Wage adjusted labour productivity (%) (3)	156.0	121.8	107.7	131.1	182.2	183.3	:	131.9	120.4	159.9	116.0	135.2	280.6	174.4	164.0	184.4	209.4
Gross operating rate (%) (3)	6.2	2.8	3.0	2.5	11.0	4.6	:	4.2	2.7	4.7	4.9	6.5	8.3	4.8	4.2	5.1	12.0
Investment per person employed (EUR thousand) (3)	:	9.8	2.8	6.5	4.0	2.6	:	6.4	4.2	4.3	4.4	1.9	2.4	2.2	:	4.2	2.1
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	65.9	22.6	19.2	23.9	4.1	2.1	14.0	30.7	225.2	1.8	:	3.7	:	:	:	18.5	30.6
Production (EUR billion)	16.5	6.2	9.4	4.2	1.0	0.4	2.8	6.7	61.5	0.4	:	0.9	:	:	:	5.6	6.6
Value added at factor cost (EUR billion)	6.5	3.0	2.3	2.2	0.3	0.1	1.8	3.6	34.1	0.2	:	0.4	:	:	:	2.6	4.5
Gross operating surplus (EUR billion)	2.8	0.9	0.8	0.7	0.1	0.1	0.7	1.2	19.1	0.1	:	0.2	:	:	:	0.6	1.2
Purchases of goods and services (EUR billion)	53.8	19.6	17.1	22.1	3.7	2.0	12.5	27.4	191.5	1.7	:	3.4	:	:	:	15.8	24.8
Gross investment in tangible goods (EUR million)	791	344	445	838	168	105	250	594	3 514	148	:	352	:	:	:	333	:
Number of persons employed (thousands)	161	83	232	126	16	12	37	81	610	41	:	75	:	:	:	54	76
Personnel costs (EUR million)	3 773	2 192	1 511	1 445	207	68	1 045	2 449	14 983	60	:	147	:	:	:	1 926	3 360
App. labour productivity (EUR thous./pers. emp.)	40.6	36.9	9.9	17.4	18.8	11.1	47.9	44.9	55.9	4.5	:	5.2	:	:	:	47.7	59.1
Average personnel costs (EUR thous./employee)	27.5	29.5	11.6	13.1	15.1	6.0	31.9	34.9	27.6	1.8	:	2.1	:	:	:	38.3	:
Wage adjusted labour productivity (%)	147.9	125.1	85.0	133.0	123.8	184.7	149.9	128.5	202.5	255.9	:	242.6	:	:	:	124.5	:
Gross operating rate (%)	4.2	3.8	4.1	3.1	2.3	2.8	5.1	3.9	8.5	7.0	:	6.5	:	:	:	3.5	3.8
Investment per person employed (EUR thousand)	4.9	4.2	1.9	6.7	10.5	9.1	6.8	7.3	5.8	3.6	:	4.7	:	:	:	6.2	:

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium, the Czech Republic and France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Wholesale trade



The wholesaling activity consists of selling to retailers or to industrial, commercial, institutional and professional users. Wholesalers can act on a fee or contract basis, as agents (which are covered in Subchapter 17.1) or for their own-account, buying and selling goods (as covered by Subchapters 17.2 to 17.6). The own-account wholesale subchapters distinguish the types of product in which the wholesaler is specialised: agricultural products, consumer goods, intermediate goods, machinery and equipment, and other products; non-specialised wholesalers are included in the final subchapter, together with the remaining product categories that are not dealt with by Subchapters 17.2 to 17.5.

In the supply chain, wholesalers are located between producers and users, providing know-how and knowledge in markets for which they have expertise. Doing so, wholesalers therefore undergo pressure on the one hand from producers and, particularly in the case of consumer goods wholesalers, on the other hand from retailers. Competition within the

wholesale trade activity is often centred around providing more efficient service or more sophisticated value added services. Wholesalers can provide a range of services from basic storage and break of bulk, sorting, grading and logistics to pre- and post-production operations (for instance, labelling, packaging, bottling and installation). Nevertheless, manufacturers may try to increase their margins by limiting the intervention of wholesale intermediaries, by reaching the consumer directly; this trend has been helped by the development of e-commerce. Equally, large users may want to bypass wholesalers and purchase directly from manufacturers.

STRUCTURAL PROFILE

Value added in the EU-25's wholesale trade sector (NACE Division 51) was EUR 410.7 billion in 2002, 45.7 % of the value added generated for the whole of distributive trades (NACE Section G), and 15.8 % of the total for non-financial services (NACE Sections G to I and K). There were 8.7 million persons employed in the EU-25's wholesale trade sector in 2002, of which 7.4 million were paid

The activities in NACE Division 51 cover all wholesale trade except that concerning motor trade (see the previous chapter). This chapter covers resale (sale without transformation) of new and used products, as well as wholesale activities carried out on a fee or contract basis.

NACE

- 51: wholesale trade and commission trade, except of motor vehicles and motorcycles;
- 51.1: wholesale on a fee or contract basis;
- 51.2: wholesale of agricultural raw materials and live animals;
- 51.3: wholesale of food, beverages and tobacco;
- 51.4: wholesale of household goods;
- 51.5: wholesale of non-agricultural intermediate products, waste and scrap;
- 51.8: wholesale of machinery, equipment and supplies;
- 51.9: other wholesale.

Table 17.1

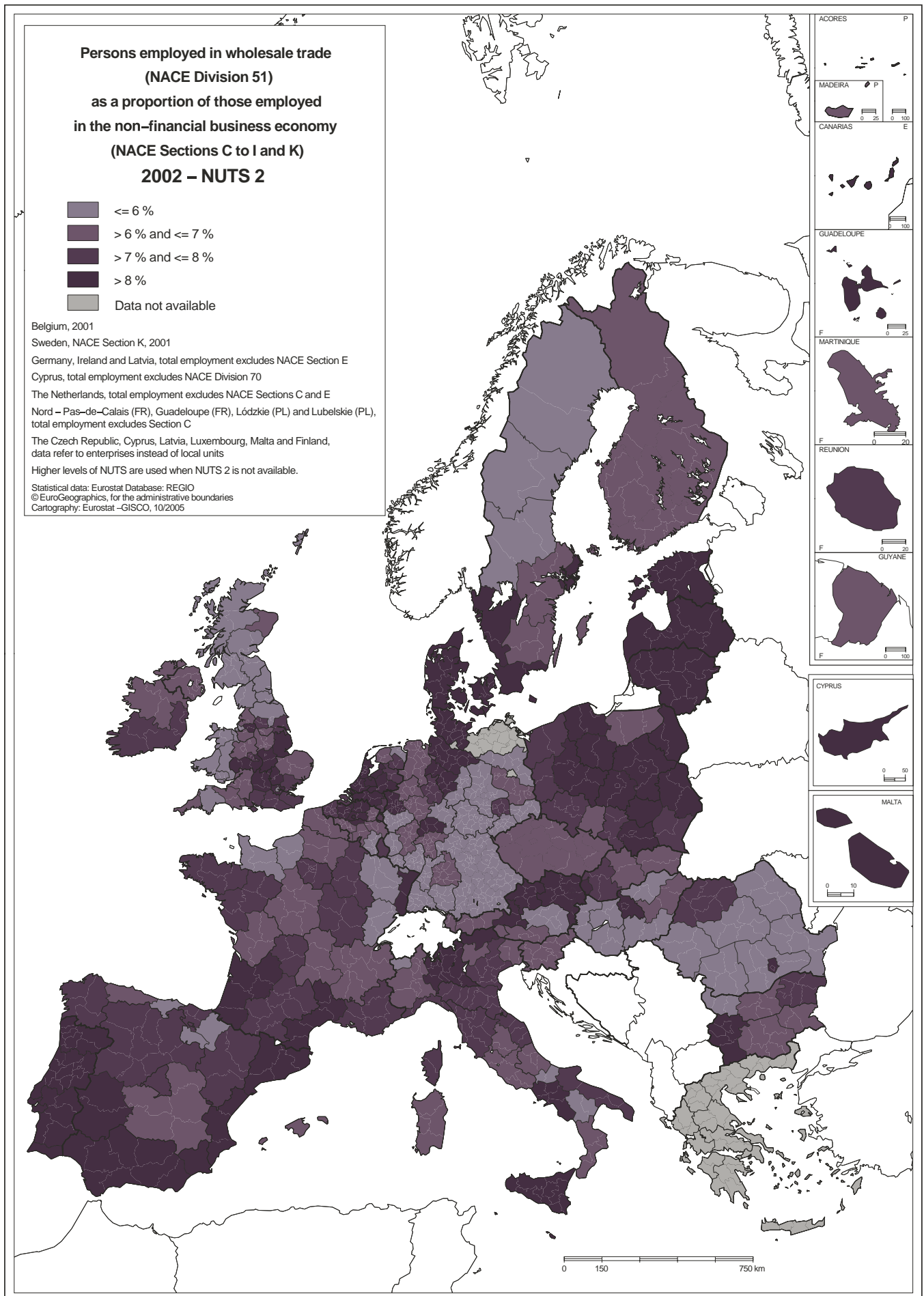
Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51) Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Wholesale trade	410 665	15.8	8 692	12.6
Wholesale on a fee or contract basis (1)	31 517	:	869	1.3
Agricultural wholesaling	12 468	0.5	316	0.5
Wholesaling of consumer goods	161 610	6.2	3 532	5.1
Wholesale of food, beverages and tobacco	63 320	2.4	1 604	2.3
Wholesale of household goods	98 290	3.8	1 929	2.8
Wholesaling of intermediate goods	93 748	3.6	1 751	2.5
Wholesaling of machinery and equipment (2)	90 460	:	1 524	2.2
Other wholesale trade	20 691	0.8	700	1.0

(1) Value added, 2001.

(2) Value added, 2000.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics



employees. This employment level equated to 31.2 % of the EU-25's total distributive trades workforce and 33.0 % of its paid employees. As such, this sector's contribution to distributive trades was much higher in value added terms than in employment terms, to some extent reflecting the relatively low importance of part-time employment in this sector's workforce compared with the retail trade sector's workforce.

Among the activities that compose the wholesale trade sector, own-account wholesale trade (NACE Groups 51.2 to 51.9) accounted for 92.4 % of the EU-25's wholesale trade value added in 2001, and wholesale on a fee or contract basis (NACE Group 51.1) for the remainder. Among the own-account wholesaling subsectors, the wholesale of machinery, equipment and supplies (NACE Group 51.8), household goods (NACE Group 51.4) and non-agricultural intermediate products, waste and scrap (NACE Group 51.5) were the largest, each contributing more than one fifth but less than one quarter of EU-25 wholesale value added in 2002 ⁽¹⁾. The wholesale of food, beverages and tobacco (NACE Group 51.3) contributed 15.4 % of EU-25 wholesale value added in 2002, while the two other subsectors, namely the wholesale of agricultural raw materials and live animals (NACE Group 51.2) and other wholesale (NACE Group 51.9) were both smaller in value added terms than wholesale on a fee or contract basis. A similar analysis can be made for employment, and by this measure, the contribution of the three largest subsectors was lower than in value added terms, while all of the smaller subsectors contributed a greater proportion to the number of persons employed.

Among the Member States, wholesale trade value added in 2002 was highest in the United Kingdom (EUR 81.6 billion, which equated to 19.9 % of the EU-25 total), Germany (EUR 64.2 billion, 15.6 %) and France (2001, EUR 55.1 billion, 13.3 %). Relative to all non-financial services, Poland, Latvia and the Czech Republic (2001) were the most specialised in wholesale trade ⁽²⁾, as they generated more than a quarter (26.9 %, 25.9 % and 25.3 % respectively) of their non-financial services value added in this sector in 2002, around 10 percentage points above the EU-25 average.

⁽¹⁾ Wholesale of machinery, equipment and supplies (NACE Group 51.8), 2000.

⁽²⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 17.2

Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (19.9)	Poland (170.1)	United Kingdom (14.1)	Slovakia (169.5)
2	Germany (15.6)	Latvia (163.8)	Germany (13.2)	Portugal (142.3)
3	France (13.3)	Netherlands (144.5)	Italy (12.2)	Estonia (137.8)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The size class structure of the wholesale trade sector was quite similar to that of motor trades (NACE Division 50 - see Chapter 16), with all four of the size classes shown in Table 17.3 contributing around one quarter of the EU-25's wholesale trade sector's value added in 2001. Small enterprises (with between 10 and 49 persons employed) accounted for slightly more of the sector's value added than any other enterprise size class. This size class structure was in contrast to that of the retail trade sector (NACE Division 52 - see Chapter 18), where the vast majority of the sector's value added was generated by large enterprises (with more than 250 persons employed) or micro enterprises (with less than 10 persons employed). Looking in more detail within the wholesale trade sector, wholesale on a fee or contract basis (NACE Group 51.1) and agricultural wholesaling (NACE Group 51.2) both had a high proportion of value added generated by micro enterprises, nearly one third (32.3 %) of the total in agricultural wholesaling and nearly two-thirds (65.9 %) for wholesale on a fee or contract basis. In contrast, the wholesale of machinery, equipment and supplies (NACE Group 51.8) and other wholesale (NACE Group 51.9) both had a relatively high proportion of value added generated by large enterprises.

Table 17.3

Wholesale trade and commission trade, except of motor and motorcycles (NACE Division 51)

Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

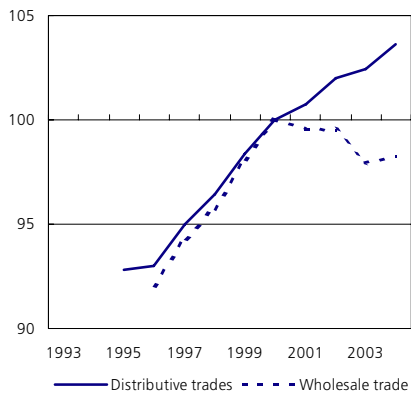
	Share of value added	Share of persons employed
Micro enterprises	24.0	33.8
Small enterprises	29.5	28.5
Medium-sized enterprises	23.0	19.8
Large enterprises	23.5	17.9

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Among the Member States ⁽³⁾, more than half of the value added in the Italian wholesale trade sector was generated by micro enterprises in 2002, a situation similar to the Italian motor and retail trade sectors. Micro enterprises were also important in the Maltese wholesale trade sector, as were small enterprises and together enterprises in these two size classes generated 93.5 % of Maltese wholesale trade value added. In contrast medium-sized and large enterprises (with 50 or more persons employed) generated more than half of the wholesale trade value added in Ireland, Germany, Austria, the United Kingdom and the Netherlands.

⁽³⁾ Belgium, the Czech Republic, France, Latvia and Finland, 2001; Greece and Luxembourg, not available.

Figure 17.1
Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51)
Evolution of employment, EU-25 (2000=100)



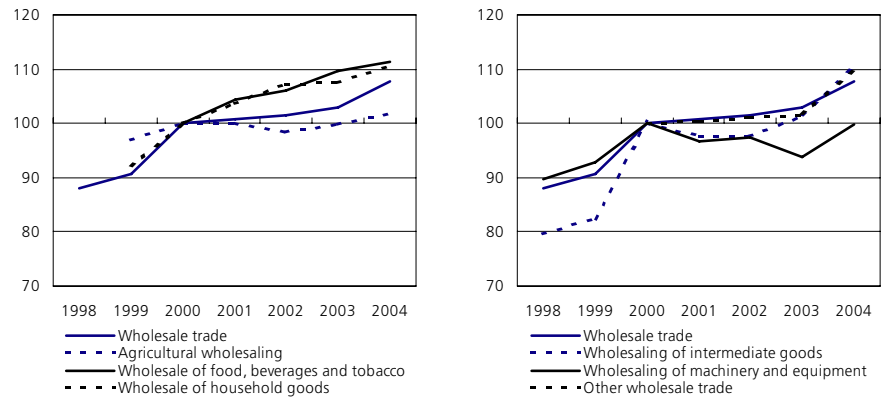
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Annualised short-term statistics for the EU-25's wholesale trade sector showed that the index of turnover grew by 4.8 % in 2004 after three years of more modest growth averaging less than 1.0 % per annum. The same year, 2004, was also marked by an increase in the EU-25 employment index, up by 0.3 %, following reductions in the number of persons employed in each year since 2000.

Looking at the turnover indices for the subsectors within own-account wholesale trade ⁽⁴⁾, a wide range of developments can be seen since 2000. After growth of 3.2 % in 2000, EU-25 agricultural wholesaling maintained a more stable level of turnover, with the 2004 growth rate of 2.1 % the largest rate of change, either positive or negative. The two consumer oriented subsectors, namely the wholesale of food, beverages and tobacco (NACE Group 51.3) and household goods (NACE Group 51.4), recorded some growth in most or all of the last four years for which data are available, averaging growth of 2.7 % and 2.5 % per annum respectively. Meanwhile, the development of the turnover index for the three remaining subsectors reflected more closely the development of many industrial activities which are often the clients of these subsectors, with a relative stagnation or fall in activity after 2000 through to 2002 or 2003, followed by growth in 2004. The fall in activity after 2000 was strongest in the wholesaling of machinery, equipment and supplies (NACE Group 51.8), while the wholesaling of intermediate goods (NACE Group 51.5) and

⁽⁴⁾ Wholesale on a fee or contract basis (NACE Group 51.1), not available.

Figure 17.2
Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51)
Turnover index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

other wholesale (NACE Group 51.9) recorded the strongest growth in 2004 among the wholesale trade NACE groups, with increases in their turnover indices for the EU-25 of 9.3 % and 8.1 % respectively.

EMPLOYMENT CHARACTERISTICS

According to structural business statistics the share of paid employees in total employment (84.7 %) in the EU-25's wholesale trade sector in 2002 was higher than the shares observed for the two other distributive trade sectors; this pattern was repeated in the vast majority of Member States. In Malta, Cyprus and Poland the share of employees in the number of persons employed was more than 20 percentage points higher in wholesale trade than in retail trade.

According to Labour Force Survey data, there were some notable differences in the employment characteristics of the wholesale trade sector when compared with the characteristics observed in the two other distributive trades sectors. Men accounted for more than two thirds (67.3 %) of the persons employed in the EU-25's wholesale trade sector in 2004, and in none of the Member States was there a majority of women working in this sector; the nearest being Slovenia where the levels of female and male employment were almost equal. The proportion of men in the EU-25 wholesale trade workforce was 28.6 percentage points higher than in retail trade, and 14.8 percentage points lower than in motor trades.

The full-time employment rate in the EU-25 wholesale trade sector (89.2 %) was slightly below that in the motor trade sector (90.6 %), both of which were much higher than in retail trade (70.7 %). Full-time employment rates were higher for wholesale trade than for retail trade in all of the Member States except for Malta, although there was little difference in these rates in the majority of the Member States that joined the EU in 2004, as well as in Greece.

Of the three distributive trades sectors, wholesale trade had the smallest proportion of younger workers (aged less than 25) in its workforce, while it had the highest proportion of workers aged 25 to 49 and aged 50 or more - see Table 17.4. The proportions of the two older age groups in the wholesale trade workforce were high not just in comparison with the other distributive trades sectors, but also in comparison with the services average (NACE Sections G to K), and equally the proportion of the wholesale trade workforce that was made up of younger workers (9.3 %) was low relative to the services average, some 3.6 percentage points lower.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 47 200 per person employed in the EU-25's wholesale trade sector in 2002, higher than in the other distribution activities, and in fact, more than double the level in retail trade. The wholesale of machinery, equipment and supplies (NACE Group 51.8) registered the highest apparent

Table 17.4

Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	67.3	121.1	89.2	111.2	9.3	68.6	22.1
BE	67.9	115.2	87.9	111.9	9.0	70.6	20.4
CZ	60.5	113.1	96.3	102.2	9.5	69.2	21.3
DK	67.1	112.9	85.1	114.6	7.9	65.1	27.0
DE	62.2	119.6	83.6	113.6	9.0	65.2	25.8
EE	75.1	148.2	95.5	105.9	:	86.6	:
EL	73.0	120.3	97.7	101.6	9.4	75.2	15.4
ES	69.6	123.9	95.4	105.9	10.1	70.9	19.1
FR	68.7	122.1	92.0	108.5	8.8	70.1	21.1
IE	71.6	132.3	89.0	112.8	10.5	66.9	22.6
IT	69.7	117.3	90.5	107.4	6.0	72.7	21.3
CY	65.6	123.8	92.5	101.0	12.1	66.4	21.4
LV	60.0	118.4	93.3	102.9	14.8	75.8	14.8
LT	58.6	111.3	94.7	101.1	12.8	81.9	21.8
LU	72.6	122.5	88.7	104.7	9.5	69.8	25.3
HU	59.0	109.8	96.7	102.1	9.4	74.3	16.4
MT	87.6	123.5	88.2	98.1	:	60.8	26.7
NL	71.7	123.8	75.0	136.5	11.6	69.1	19.3
AT	63.0	125.2	82.2	110.5	11.6	69.1	19.3
PL	64.9	121.2	91.9	102.3	12.5	73.5	14.0
PT	68.1	122.4	96.6	103.8	11.0	67.4	21.6
SI	50.9	98.2	93.7	102.3	6.1	74.8	19.1
SK	57.8	113.4	96.4	99.8	10.1	78.0	11.9
FI	68.8	128.1	91.9	110.5	11.5	61.8	26.7
SE	71.4	120.4	86.5	113.4	6.6	66.6	26.8
UK	69.1	124.1	86.5	121.9	11.4	58.0	30.6

(1) Latvia and Luxembourg, 2003; Latvia, 2002.

(2) Latvia, Lithuania and Malta, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

labour productivity of all the NACE groups⁽⁵⁾ within wholesale trade, at EUR 59 400 per person employed (2000). The lowest level of labour productivity was registered by other wholesaling (NACE Group 51.9), at EUR 29 500 of value added per person employed. Average personnel costs in the wholesale trade sector were EUR 30 200 per employee in the EU-25 in 2002. As with apparent labour productivity, the wholesale of machinery, equipment and supplies had the highest level among the wholesale NACE groups, EUR 40 200 per employee (2000) and other wholesale the lowest level, at EUR 22 500.

Value added per person employed was equivalent to 156.4 % of personnel costs per employee in the wholesale trade sector in 2002, a level of wage adjusted labour productivity comparable with that in motor trades (156.0 %) and notably higher than in

retail trade (132.5 %). The wholesale of intermediate goods (NACE Group 51.5), household products (NACE Group 51.4) and food, beverages and tobacco (NACE Group 51.3) all recorded higher wage adjusted labour productivity ratios than the wholesale trade average. Other wholesale trade (NACE Group 51.9) and wholesale on a fee or contract basis (NACE Group 51.1) recorded the lowest wage adjusted labour productivity ratios of the NACE groups that make up the wholesale trade sector.

The gross operating surplus (value added minus personnel costs) in the EU-25's wholesale trade sector was equivalent to 5.4 % of turnover in 2002, lower than in the two other distributive trades sectors - reflecting the high turnover (resale in the same condition as purchased) and relatively low margins typically associated with wholesale trade. Among the Member States⁽⁶⁾,

gross operating rates did not vary greatly, as all were situated within a range of 2.9 % to 9.5 %, narrower than for both of the other distributive trades sectors. Among the EU-25's wholesale trade NACE groups⁽⁷⁾ the highest gross operating rate unsurprisingly was recorded in the subsector of wholesale on a fee or contract basis (11.8 %, 2001), where turnover does not reflect the volume of goods purchased and resold, but just the commission and fees for wholesale services provided. Among the six own-account wholesale trade NACE groups the wholesale trade of household products and the wholesale of machinery, equipment and supplies (2001) recorded the highest gross operating rates, 6.2 % and 5.3 % respectively. The lowest rate was recorded for the wholesale of agricultural products subsector (3.2 %).

⁽⁵⁾ Wholesaling on a fee or contract basis (NACE Group 51.1), 2001; wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2000.

⁽⁶⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

⁽⁷⁾ Wholesaling on a fee or contract basis (NACE Group 51.1) and wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2001.

17.1: WHOLESALE ON A FEE OR CONTRACT BASIS

This wholesale sector covers agents trading on behalf and on account of others, those involved in bringing sellers and buyers together and those undertaking commercial transactions on behalf of a principal (NACE Group 51.1). It does not include financial intermediaries such as insurance or real estate agents, nor retail sale by agents.

Wholesalers acting as agents provide a service, acting to bring together the two parties to a transaction, namely the buyer and the seller. In doing so, their turnover is mainly composed of the fees and commissions they charge for their services; unlike own-account wholesalers their turnover does not reflect the value of the goods that they trade.

STRUCTURAL PROFILE

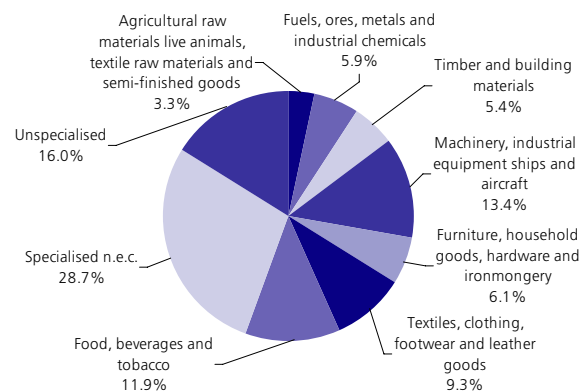
In 2001 value added for wholesale on a fee or contract basis (NACE Group 51.1) was EUR 31.5 billion in the EU-25 and represented 7.6 % of total value added in the wholesale trade sector (NACE Division 51). Using this measure, wholesale on a fee or contract basis was the third smallest NACE group in the wholesale trade sector, ahead of agricultural wholesaling and the residual sector of other wholesale. Wholesale on a fee or contract basis had 868 500 persons employed in the EU-25 in 2002, equivalent to 10.0 % of the total workforce within the wholesale sector.

An analysis of the nine NACE classes that compose this sector can be made for an aggregate of 19 Member States, which together represented around 88 % of total EU-25 value added in 2002 ⁽⁸⁾. For this group of Member States the largest subsectors were the two residual categories of specialised agents not elsewhere classified (NACE Class 51.18, 28.7 % of sectoral value added) and unspecialised agents (NACE Class 51.19, 16.0 %). Agents involved in the sale of machinery, industrial equipment, ships and aircraft (NACE Class 51.14) and in the sale of food, beverages and tobacco (NACE Class 51.17) were the only other subsectors that contributed a double-digit share of this sector's value added, with 13.4 % and 11.9 % shares respectively - see Figure 17.3.

By a large margin Italy had the largest wholesale on a fee or contract basis sector among the Member States, with EUR 10.6 billion of value added in 2002, approximately

⁽⁸⁾ Luxembourg, the Netherlands and Sweden, 2001; Belgium and France, 2000; Czech Republic, Germany, Estonia, Greece, Ireland and Latvia, not available.

Figure 17.3
Wholesale on a fee or contract basis (NACE Group 51.1)
Breakdown of sectoral value added, EU average, 2002 (%) (1)



(1) Luxembourg, the Netherlands and Sweden, 2001; Belgium and France, 2000; the Czech Republic, Germany, Estonia, Greece, Ireland and Latvia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 17.5
Wholesale on a fee or contract basis (NACE Group 51.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100)	Share of EU-25 employment (%) (2)	Non-financial services employment specialisation (EU-25=100) (3)
1	Italy (34.5)	:	Italy (37.1)	Slovenia (499.7)
2	United Kingdom (14.7)	:	United Kingdom (9.0)	Slovakia (383.7)
3	France (14.6)	:	Germany (8.2)	Italy (330.8)

(1) 2001.

(2) Greece, not available.

(3) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

one third of the EU-25's value added in this sector. Unsurprisingly, with such a large contribution to the EU-25 total, Italian wholesaling was very concentrated in this form of wholesaling relative to other forms, as this sector generated 24.0 % of Italian wholesale value added in 2002, compared with a 7.6 % share in the EU-25 as a whole (2001). The only Member State ⁽⁹⁾ more specialised in this form of wholesaling was Slovenia, where wholesale on a fee or contract basis accounted for 32.3 % of wholesale value added. Due to its small, negative value added in this sector, Latvia was the least specialised in this form of wholesaling, while Lithuania also generated a low proportion of wholesale value added in this sector (1.8 %).

⁽⁹⁾ Belgium, the Czech Republic, France and the Netherlands, 2001; Greece, not available.

Table 17.6
Wholesale on a fee or contract basis (NACE Group 51.1)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	65.9	77.8
Small enterprises	16.3	12.1
Medium-sized enterprises	7.7	5.0
Large enterprises	10.2	5.1

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

As noted in the overview, the size class structure of this sector is unusual for a wholesale trade activity, given the dominance of micro enterprises (with less than 10 persons employed). This reflects the different nature of this activity, acting as an intermediary between buyers and sellers, rather than buying and reselling products. Nearly two thirds (65.9 %) of this sector's value added was generated by micro enterprises in the EU-25 in 2001, and micro enterprises employed more than three quarters (77.8 %) of the sector's workforce - see Table 17.6.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 37 700 per person employed in the EU-25's sector of wholesale trade on a fee or contract basis in 2001, one of the lowest levels when compared with the other NACE groups within the wholesale trade sector. It is likely that a high proportion of persons working part-time in this activity could account, in part, for the relatively low levels of apparent labour productivity. Average personnel costs in 2001 were EUR 28 500 per employee in the EU-25, some EUR 2 400 lower than the wholesale trade average.

The wage adjusted labour productivity ratio in this sector showed that value added per person employed was equivalent to 132.3 % of personnel costs per employee in the EU-25 in 2001, one of the lowest rates of the wholesale trade NACE groups. In contrast, this sector recorded the highest gross operating rate among the wholesale trade NACE groups ⁽¹⁰⁾, with a gross operating surplus equivalent to 11.8 % of turnover in 2001.

⁽¹⁰⁾ Wholesaling on a fee or contract basis (NACE Group 51.1) and wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2001.

17.2: AGRICULTURAL WHOLESALING

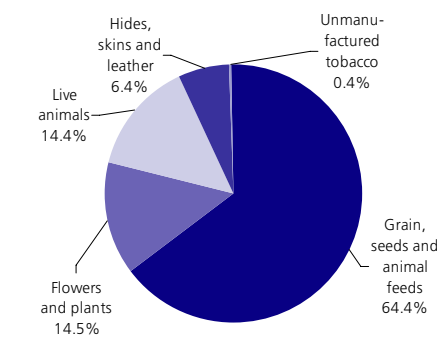
NACE Group 51.2 covers the wholesaling of raw materials for agricultural activities (such as seeds and animal feed), as well as live animals. It does not cover the wholesaling of outputs from farming other than hides, skins and leather, and unmanufactured tobacco.

STRUCTURAL PROFILE

Agricultural wholesaling (NACE Group 51.2) was the smallest own-account wholesale trade subsector at the NACE group level, whether measured in terms of turnover, value added or employment. Indeed, the turnover generated by agricultural wholesaling was EUR 174.5 billion and value added was EUR 12.5 billion in the EU-25 in 2002, which represented around 5.0 % of total wholesale trade (NACE Division 51) turnover and 3.0 % of value added. There were 315 700 persons employed in this sector in the EU-25 in 2002, some 3.6 % of the total number of persons employed in wholesale trade.

Among the Member States, France (2001) generated more than one fifth of the EU-25's value added in the agricultural wholesale sector, the largest share in this sector of any Member State, and also the largest French share of any wholesaling NACE group. Germany was the second largest contributor, accounting for 17.0 % of the EU-25's value added in 2002, followed by the Netherlands (15.3 %) which also recorded its highest share of EU-25 value added among the wholesale trade NACE groups in this sector. As such wholesale trading in the Netherlands, Slovakia, Austria and France were relatively specialised in the wholesaling of these products, as in each of these Member States 4.5 % or more of wholesale value added was generated in this sector, compared to an EU-25 average of 3.0 %.

Figure 17.4
Wholesale of agricultural raw materials, live animals (NACE Group 51.2)
Breakdown of sectoral value added, EU average, 2002 (%) (1)



(1) Belgium, France, Austria, Slovakia and the United Kingdom, 2001; Sweden, 2000; the Czech Republic, Estonia, Greece, Ireland, Cyprus, Luxembourg, Malta, the Netherlands and Poland, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

For 2002 an analysis of the five NACE classes that compose this sector can be made for an aggregate of 16 Member States ⁽¹¹⁾ which together represented approximately four fifths of the EU-25's value added in the sector. For this group of Member States the wholesale of grain, seeds and animal feeds (NACE Class 51.21) dominated, accounting for nearly two thirds of sectoral value added (64.4 %). The wholesale of flowers and plants (NACE Class 51.22) and of live animals (NACE Class 51.23) both contributed just under 15 % of the sector's value added. The wholesale of hides, skins and leather (NACE Class 51.24) had a 6.4 % share, while the remaining activity, the wholesale of unmanufactured tobacco (NACE Class 51.25) only contributed 0.4 % to the total.

Table 17.7
Wholesale of agricultural raw materials, live animals (NACE Group 51.2)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	France (22.3)	Netherlands (261.4)	France (16.5)	Austria (268.8)
2	Germany (17.0)	Slovakia (204.9)	Germany (15.1)	Netherlands (204.8)
3	Netherlands (15.3)	Austria (192.5)	Spain (11.8)	Slovakia (162.0)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.
(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
(3) Greece, not available.
(4) France, 2001; Greece and Cyprus, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

⁽¹¹⁾ Belgium, France, Austria, Slovakia and the United Kingdom, 2001; Sweden, 2000; the Czech Republic, Estonia, Greece, Ireland, Cyprus, Luxembourg, Malta, the Netherlands and Poland, incomplete or not available.

Table 17.8

Wholesale of agricultural raw materials, live animals (NACE Group 51.2)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	32.3	38.3
Small enterprises	29.1	26.8
Medium-sized enterprises	24.6	20.9
Large enterprises	14.0	13.9

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

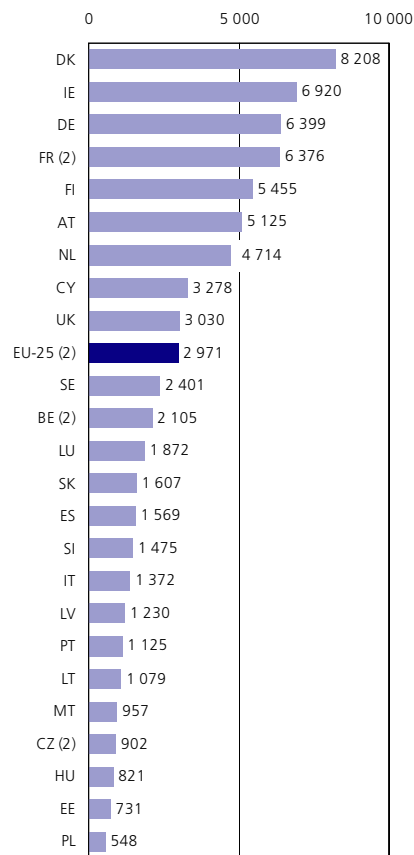
Table 17.8 shows the contribution by size class of enterprises to value added and employment for the EU-25's agricultural wholesaling sector. The largest contribution in 2001, according to both of these measures, was made by micro enterprises (with less than 10 persons employed), with 32.3 % of sectoral value added and 38.3 % of sectoral employment. The contribution of large enterprises (with 250 or more persons employed) was lower than the wholesale trade average (4.0 percentage points lower in employment terms and 9.4 percentage points lower in value added terms).

Despite the importance of micro enterprises, the average size of agricultural wholesalers in terms of their turnover was EUR 0.7 million above the wholesale trade average in 2001, reaching EUR 3.0 million - see Figure 17.5.

According to annual short-term statistics, after a rise in the turnover index of 3.2 % in 2000, the evolution of sales for the agricultural wholesaling sector was flat in 2001 (0.1 % growth), followed by a fall in the level of activity in 2002 (-1.7 %). After this the EU-25 turnover index rose again in 2003 and 2004, by 1.4 % and 2.1 % respectively - see Figure 17.6.

Figure 17.5

Wholesale of agricultural raw materials, live animals (NACE Group 51.2)
Turnover per enterprise, 2002 (EUR thousand) (1)



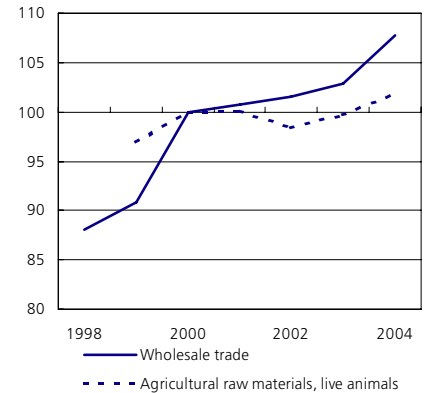
(1) Greece, not available.

(2) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 17.6

Wholesale of agricultural raw materials, live animals (NACE Group 51.2)
Evolution of turnover index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

PRODUCTIVITY AND PROFITABILITY

In 2002 the apparent labour productivity of the agricultural wholesaling sector was EUR 39 500 per person employed in the EU-25, some EUR 7 800 below the wholesale trade average. At EUR 26 600 per employee, average personnel costs in this sector were also below the wholesale trade average, but by a lesser amount, just EUR 3 600. The resulting wage adjusted labour productivity ratio was 148.7 %, some 7.7 percentage points below the average for wholesale trade. However, in several Member States the agricultural wholesaling sector recorded higher wage adjusted labour productivity than the national wholesale trade average ⁽¹²⁾, notably in Ireland and Slovakia. The gross operating rate was relatively low in this sector, as the gross operating surplus was equivalent to just 3.2 % of turnover in the EU-25 in 2002, the lowest rate among all of the wholesale trade NACE groups ⁽¹³⁾.

⁽¹²⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

⁽¹³⁾ Wholesaling on a fee or contract basis (NACE Group 51.1) and wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2001.

17.3: WHOLESALING OF CONSUMER GOODS

The wholesaling of consumer goods covers NACE Groups 51.3 and 51.4. The first of these groups includes the wholesaling of food, beverages and tobacco, while the latter includes household products, such as textiles, clothing, electrical appliances, games, toys, tableware, furniture and furnishings, as well as cleaning products and personal products. It should be noted that although these two categories are grouped together here as consumer goods, these activities also include the wholesaling of food and beverage products as inputs for further processing.

STRUCTURAL PROFILE

The wholesaling of consumer goods (defined as the aggregate of NACE Groups 51.3 and 51.4) generated EUR 161.6 billion of value added in 2002 in the EU-25 from a turnover of EUR 1.4 trillion. These figures were equivalent to 39.4 % of EU-25 wholesale trade (NACE Division 51) value added and 39.9 % of turnover. In terms of the number of persons employed, this sector provided employment to 3.5 million persons in the EU-25, equivalent to 40.6 % of the wholesale trade total.

No single Member State dominated activity in the wholesaling of consumer goods. The United Kingdom had the highest share of value added, accounting for some 19.5 % of the EU-25 total, with Germany (16.5 %) a few percentage points lower, while France (12.5 %, 2001), Italy (11.1%) and Spain (10.0 %) all recorded shares within a relatively narrow range. Wholesale trading in Ireland and several of the southern Member States was relatively concentrated in this sector, most notably in Malta, Portugal and Cyprus, as at least 50 % of wholesale trade value added was generated within the wholesaling of consumer goods in these Member States.

Among the two NACE groups that compose this sector, the wholesale of household goods (NACE Group 51.4) contributed three fifths (60.8 %) of sectoral value added in the EU-25, while turnover was quite evenly split between this subsector and the wholesale of food, beverages and tobacco (NACE Group 51.3). Nevertheless, a group of smaller Member States⁽¹⁴⁾ composed of Cyprus, Ireland and Luxembourg recorded a larger food, beverages and tobacco wholesaling subsector in value added terms, as did Latvia (62.7 % of the consumer goods wholesaling sector total). In contrast, less than one quarter of this sector's value added in Slovenia was derived from the food, beverages and tobacco wholesaling subsector.

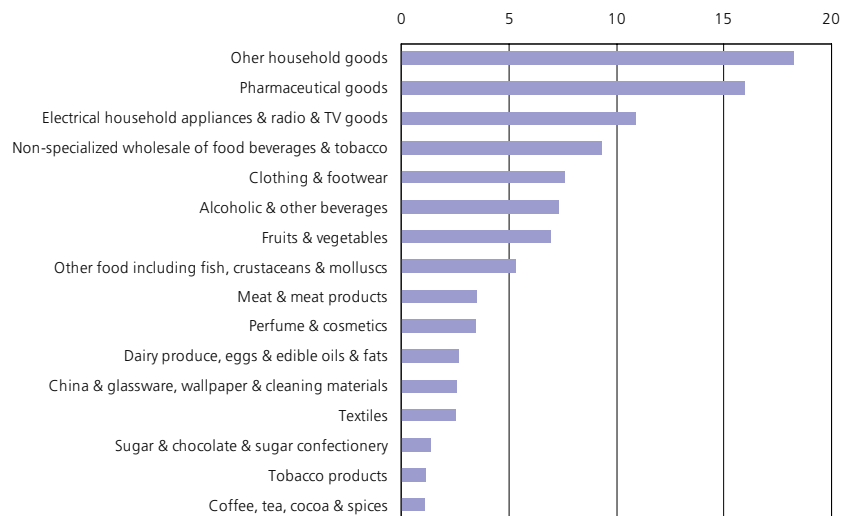
⁽¹⁴⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Table 17.9 Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (19.5)	Portugal (188.2)	Spain (15.4)	Portugal (170.7)
2	Germany (16.5)	Lithuania (158.4)	Germany (14.2)	Malta (153.6)
3	France (12.5)	Ireland (133.3)	United Kingdom (14.0)	Spain (151.7)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.
 (2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 (3) Greece, not available.
 (4) France, 2001; Greece and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 17.7 Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4) Breakdown of sectoral value added, EU average, 2002 (%) (1)



(1) Belgium, France and Luxembourg, 2001; the Czech Republic, Estonia, Greece and Ireland, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

These two subsectors together have 16 NACE classes and an analysis can be made based on an aggregate of 21 Member States for 2002⁽¹⁵⁾ - these Member States represented over 95 % of the EU-25's value added in the wholesaling of consumer goods sector. For this group of Member States three of these NACE classes had a double-digit share of the sector's value added, namely the wholesale of other household goods (NACE Class 51.47), pharmaceutical goods (NACE Class 51.46) and electrical household appliances and radio and television goods (NACE Class 51.43), whose shares were 18.2 %, 16.0 % and 10.9 % respectively - see Figure 17.7.

⁽¹⁵⁾ Belgium, France and Luxembourg, 2001; the Czech Republic, Estonia, Greece and Ireland, incomplete or not available.

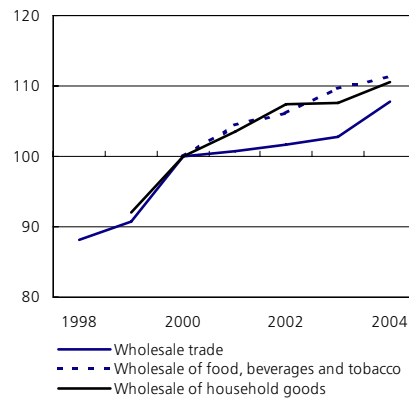
An analysis of the evolution of turnover indices for consumer goods wholesaling can be made for each of the two NACE groups that compose this sector - see Figure 17.8 overleaf. The turnover index registered gains for both of these activities in all of the last four years (2001 to 2004 inclusive), a feat matched only by the other wholesale sector (NACE Group 51.9). Compared with the general trend of moderately rising turnover within the wholesale trade sector (1.9 % per annum on average between 2000 and 2004), both of these activities recorded more pronounced growth. The wholesale of food, beverages and tobacco (NACE Group 51.3) recorded an average growth rate between 2000 and 2004 of 2.7 % per annum, while for the wholesale of household goods (NACE Group 51.4) the

average over the same period was slightly less at 2.5 % per annum. Nevertheless, in 2004 the EU-25 index of turnover rose by 1.6 % for the wholesale of food, beverages and tobacco and by 2.8 % for the wholesale of household goods, both below the wholesale trade average of 4.8 %.

In employment and value added terms micro enterprises (with less than 10 persons employed) contributed less to the wholesale of consumer goods sector than they did to wholesale trade in general, for example contributing one fifth (20.5 %) of the EU-25's value added in 2001, in comparison to a wholesale trade average of nearly one quarter (24.0 %). The other size classes shown in Table 17.10 contributed a higher share of this sector's value added and employment than they did for wholesale trade. There were however differences between the size class structures of the two subsectors. The wholesale of food, beverages and tobacco (NACE Group 51.3) had the second smallest contribution to value added by micro enterprises among the seven wholesale trade NACE groups, at just 19.4 % in 2001, while large enterprises (with 250 or more persons employed) generated 24.8 % of this subsector's value added, the third highest share among the wholesale trade NACE groups. For the wholesale of household goods subsector (NACE Group 51.4) the value added generated by medium-sized enterprises (with between 50 and 249 persons employed) was relatively high, and at 26.7 % of the subsector's value added this was the highest contribution by medium-sized enterprises among the wholesale trade NACE groups.

Figure 17.9 shows the average enterprise size in terms of turnover in the wholesaling of consumer goods sector, and in 2001 this was EUR 3.0 million in the EU-25. The average size of enterprises in the EU-25's food, beverages and tobacco wholesaling subsector was EUR 3.6 million per enterprise in 2001, while it was EUR 2.6 million for the wholesaling of household goods subsector, both of these values were above the wholesale trade average of EUR 2.3 million.

Figure 17.8
Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4)
Evolution of turnover index, EU-25 (2000=100)



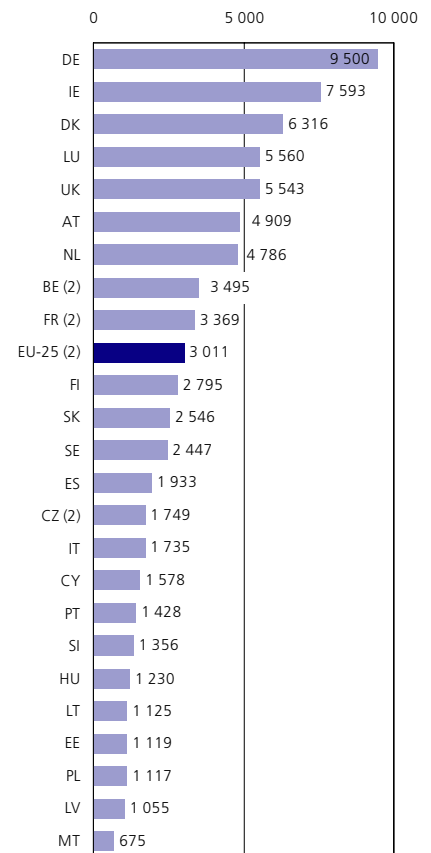
Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for consumer goods wholesaling was EUR 45 800 per person employed in the EU-25 in 2002, slightly below the wholesale trade average (EUR 47 200). The wholesale of food, beverages and tobacco recorded an apparent labour productivity of EUR 39 500 per person employed, while the wholesale of household products registered productivity (by this measure) of EUR 51 000, above the wholesale trade average. Average personnel costs were EUR 28 300 per employee in the EU-25 for consumer goods wholesaling, once again less than the wholesale trade average. As with apparent labour productivity, this ratio was higher for the wholesale of household products (EUR 31 300) than for the wholesale of food, beverages and tobacco (EUR 24 700).

The result of these slightly lower than average ratios for productivity and personnel costs was a wage adjusted labour productivity ratio of 161.8 % in the EU-25 in 2002, some 5.3 percentage points above the wholesale

Figure 17.9
Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4)
Turnover per enterprise, 2002 (EUR thousand) (1)



(1) Greece, not available.
(2) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 17.10
Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Wholesale of food, beverages, tobacco and household goods (NACE Groups 51.3 and 51.4)		Wholesale of food, beverages and tobacco (NACE Group 51.3)		Wholesale of household goods (NACE Group 51.4)	
	Share of value added	Share of persons employed	Share of value added	Share of persons employed	Share of value added	Share of persons employed
Micro enterprises	20.5	28.5	19.4	26.2	21.3	30.5
Small enterprises	30.0	29.3	31.4	29.1	28.9	29.5
Medium-sized enterprises	25.7	22.4	24.4	22.2	26.7	22.6
Large enterprises	23.8	19.8	24.8	22.5	23.1	17.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

trade average – with the two subsectors recording fairly similar wage adjusted labour productivity ratios. In several Member States ⁽¹⁶⁾, notably the Baltic States and Slovakia, wage adjusted labour productivity for consumer goods wholesaling was below the national wholesale trade average. In contrast, the wage adjusted labour productivity ratio in the Irish sector of consumer goods wholesaling was 1.4 times as high as the national wholesale trade average.

⁽¹⁶⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

The gross operating rate was 5.2 % in the EU-25's consumer goods wholesaling sector in 2002, marginally below the wholesale trade average of 5.4 %. According to this measure of profitability the two subsectors performed differently, as the wholesale of food, beverages and tobacco subsector recorded a rate of 4.1 %, while that for the wholesale of household products was 1.5 times as high at 6.2 %, the highest gross operating rate among the own-account wholesale trade NACE groups ⁽¹⁷⁾.

⁽¹⁷⁾ Wholesaling on a fee or contract basis (NACE Group 51.1) and wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2001.

17.4: WHOLESALING OF INTERMEDIATE GOODS

The wholesaling of intermediate goods (NACE Group 51.5) covers all products used as production materials, fuel or other consumables, except for agricultural products (which are treated in Subchapter 17.2). It includes, for example, the wholesaling of fuels, construction materials, hardware, chemical products, as well as the wholesaling of scrap.

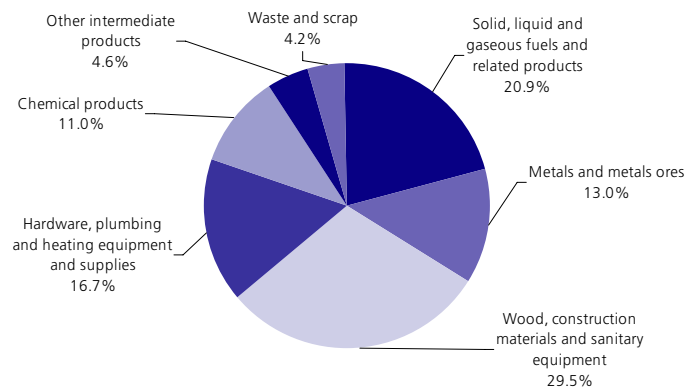
STRUCTURAL PROFILE

Turnover in the EU-25's wholesaling of intermediate goods sector (NACE Group 51.5) was EUR 1.0 trillion in 2002, and from these sales EUR 93.7 billion of value added was generated. This level of activity corresponded to 28.7 % of total wholesale trade (NACE Division 51) turnover and 22.8 % of wholesale trade value added and therefore this sector was the third largest of the wholesale trade NACE groups in value added terms but had the largest share of wholesale trade turnover, some 8.4 percentage points above the next largest proportion, the wholesale of household goods (NACE Group 51.4). The wholesaling of intermediate goods employed 1.8 million persons in the EU-25 in 2002, one fifth (20.1 %) of the total wholesale trade workforce.

The wholesale of intermediate goods is made up of seven NACE classes, for which an analysis can be made for 2002 based on 21 of the Member States ⁽¹⁸⁾, representing over 95 % of the EU-25's value added in this sector. For this group of Member States the wholesale of wood, construction materials and sanitary equipment (NACE Class 51.53) was by far the largest subsector in value added terms with 29.5 % of intermediate goods wholesale value added. The wholesale of solid, liquid and

⁽¹⁸⁾ Belgium and France, 2001; the Czech Republic, Estonia, Greece and Ireland, incomplete or not available.

Figure 17.10 Wholesale of non-agricultural intermediate products, waste and scrap (NACE Group 51.5) Breakdown of sectoral value added, EU average, 2002 (%) (1)



(1) Belgium and France, 2001; the Czech Republic, Estonia, Greece and Ireland, not available. Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 17.11 Wholesale of non-agricultural intermediate products, waste and scrap (NACE Group 51.5) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (20.0)	Latvia (329.9)	Germany (16.6)	Lithuania (186.3)
2	United Kingdom (19.9)	Estonia (202.8)	United Kingdom (14.6)	Latvia (168.9)
3	France (12.2)	Lithuania (195.6)	France (11.7)	Estonia (163.6)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.
 (2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 (3) Greece, not available.
 (4) France, 2001; Greece and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

gaseous fuels and related products (NACE Class 51.51) represented the second largest part of value added with one fifth of the total (20.9 %) - see Figure 17.10.

Germany and the United Kingdom each accounted for around one fifth of the EU-25's value added in intermediate goods wholesaling, and this represented the highest contribution of Germany to EU-25 value added in any of the wholesale NACE groups. France (12.2 %, 2001) was the only other Member State ⁽¹⁹⁾ that recorded a double-digit share of EU-25 value added in this sector. In the Baltic States wholesale trade was most concentrated in this activity in terms of this sector's contribution to value added: in Estonia (33.4 %) and Lithuania (31.7 %) this sector generated close to one third of wholesale trade value added, while in Latvia it was nearer to one half (46.0 %). Slovakian wholesale trading was clearly the least concentrated in the wholesaling of intermediate goods, as it generated just 12.8 % of its wholesale trade value added in this sector, and the share of this sector in Malta (15.3 %), the Netherlands (16.6 %) and Hungary (17.2 %) was also several percentage points below the EU-25 average (22.8 %).

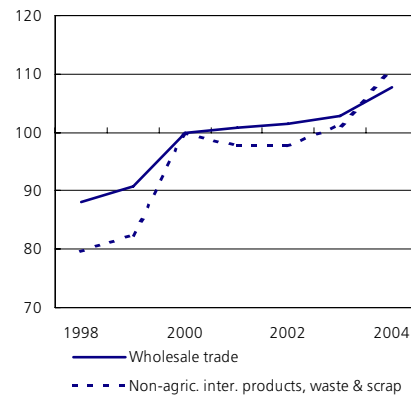
Annual short-term statistics provide information on the evolution of the turnover index for the wholesale of intermediate goods - see Figure 17.11. This sector experienced very strong turnover growth in 2000, with an increase of 21.1 % registered for the EU-25. There was a sharp change in fortunes as turnover contracted by 2.3 % in 2001 followed by stagnation in 2002 (-0.1 %). In 2003 the EU-25 turnover index increased again, by 3.7 %, and this upward development was reinforced in 2004 by growth of 9.3 %, the highest rate among the own-account wholesale trade NACE groups in that year. The contraction and relative stagnation experienced in 2001 and 2002 reflected the development in the output of the clients of this sector, namely the industrial activities.

Table 17.12 provides a size class analysis in value added and employment terms for the EU-25's intermediate goods wholesale sector in 2001. The contributions of micro enterprises (with less than 10 persons employed) and large enterprises (with 250 or more persons employed) to the sector's value added and employment were relatively low compared with wholesale trade averages.

Figure 17.12 shows the average enterprise size in terms of turnover. Enterprises in the wholesale of intermediate goods sector were relatively large, with an average turnover of EUR 5.2 million in the EU-25 in 2001, the highest value among wholesale trade NACE groups. The two Member States with the largest intermediate goods wholesaling sectors, the United Kingdom and Germany, also had the largest enterprises by this measure.

⁽¹⁹⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Figure 17.11
Wholesale of non-agricultural intermediate products, waste and scrap (NACE Group 51.5)
Evolution of turnover index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25 was EUR 53 500 per person employed in the wholesaling of intermediate goods sector in 2002, the second highest level among the NACE groups ⁽²⁰⁾ that make up the wholesale trade sector, behind the wholesaling of machinery, equipment and supplies. Average personnel costs were EUR 30 200 per employee in the EU-25, the same as the wholesale trade average. The relatively high apparent labour productivity, combined with a standard level of average personnel costs, resulted in this sector having the highest wage adjusted labour productivity ratio among the EU-25's wholesale trade NACE groups. With value added per person employed equivalent to 177.3 % of personnel costs per employee, the productivity ratio in the wholesaling of intermediate goods sector was 20.8 percentage points above the wholesale trade average. Only in the Netherlands and Slovakia was wage adjusted labour productivity in this sector below the national average for wholesale trade ⁽²¹⁾. In contrast in Latvia this ratio was 1.4 times as high in the wholesaling of intermediate goods as the national wholesale trade average. The gross operating rate for the wholesale of intermediate goods in the EU-25 was 4.5 % in 2002, nearly one percentage point below the wholesale trade average (7.9 %) Italy recorded a particularly low gross operating rate in this sector, just 4.6 %, and by the same measure the United Kingdom, Belgium (2001) and Austria also recorded relatively low gross operating rates ⁽²²⁾. In contrast, Ireland and Slovenia recorded gross

⁽²⁰⁾ Wholesaling on a fee or contract basis (NACE Group 51.1), 2001; wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2000.

⁽²¹⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

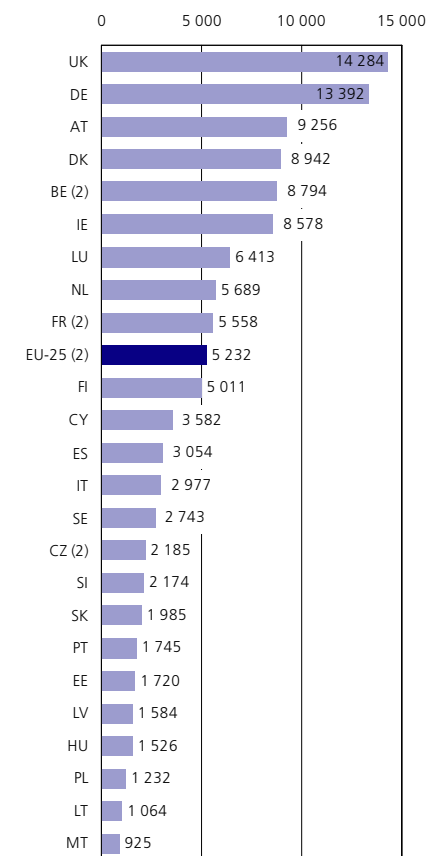
⁽²²⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Table 17.12
Wholesale of non-agricultural intermediate products, waste and scrap (NACE Group 51.5)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

Enterprise size class	Share of value added	Share of persons employed
Micro enterprises	19.9	26.8
Small enterprises	32.3	33.2
Medium-sized enterprises	25.3	22.5
Large enterprises	22.5	17.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Figure 17.12
Wholesale of non-agricultural intermediate products, waste and scrap (NACE Group 51.5)
Turnover per enterprise, 2002 (EUR thousand) (1)



(1) Greece, not available. (2) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

operating rates for the wholesale of intermediate goods that were 25 % or more above their average rates for wholesale trade.

17.5: WHOLESALING OF MACHINERY AND EQUIPMENT

The wholesaling of machinery, equipment and supplies concerns the wholesaling of capital goods and other final durable goods for industrial use, except for those covered by motor trade. Wholesaling of installation equipment, as well as electrical and electronic products for industrial use and the wholesaling of office furniture are all included.

Note that in NACE Rev. 1 these activities were covered by Group 51.6, whereas in NACE Rev. 1.1, which is used in the present publication, the same activities are covered by Group 51.8. At the NACE group level there is no change in the coverage, and the change in the code has been made to accommodate changes at the more detailed NACE class level, notably splitting the two NACE Rev. 1 Classes 51.64 and 51.65 into NACE Rev. 1.1 Classes 51.84 to 51.87.

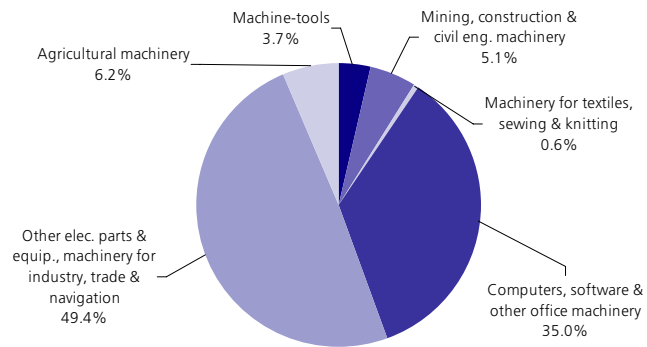
STRUCTURAL PROFILE

Turnover in the EU-25's wholesaling of machinery and equipment sector (NACE Group 51.8) was EUR 558.6 billion in 2000, and value added EUR 90.5 billion. This represented 16.5 % of EU-25 wholesale trade (NACE Division 51) turnover and 23.3 % of value added, making this the largest sector among the wholesale trade NACE groups in value added terms, but only the fourth largest in turnover terms. The number of persons employed by the wholesaling of machinery and equipment sector reached 1.5 million persons in the EU-25 in 2002, corresponding to 17.5 % of the wholesale trade workforce.

An analysis of this sector by activity is possible at the NACE class level, however only a few Member States have provided SBS data for the new NACE Classes 51.84 to 51.87, and hence the activity breakdown shown in Figure 17.13 regroups NACE Classes 51.84 and 51.85 on the one hand and Classes 51.86 and 51.87 on the other. For this analysis of value added data an aggregate was created from the data available from 21 of the Member States⁽²³⁾, which collectively contributed approximately 95 % of this sector's value added. The wholesale of other electronic parts and equipment and other machinery for use in industry, trade and navigation (NACE Classes 51.86 and 51.87) generated nearly half of the value added in this sector (49.4 %) and the wholesale of computers, their peripherals and software, and

⁽²³⁾ Belgium, France, the Netherlands, Slovenia and Slovakia, 2001; the Czech Republic, Greece, Ireland and Luxembourg, incomplete or not available.

Figure 17.13
Wholesale of machinery, equipment and supplies (NACE Group 51.8)
Breakdown of sectoral value added, EU average, 2002 (%) (1)



(1) Belgium, France, the Netherlands, Slovenia and Slovakia, 2001; the Czech Republic, Greece, Ireland and Luxembourg, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

other office machinery and equipment (NACE Classes 51.84 and 51.85) contributed a further 35.0 %. The combined contribution of all of the other activities in this sector was 15.6 %.

In value added terms the United Kingdom had the largest wholesaling of machinery and equipment sector among the Member States, as it generated EUR 20.3 billion of value added in 2002. France (EUR 16.2 billion, 2001), Germany (EUR 9.5 billion) and the Netherlands (EUR 8.6 billion, 2001) were the next largest, all contributing more than 10 % to the EU-25 total in 2000.

Finland and Denmark were the most specialised in machinery and equipment wholesaling, in so far as this sector accounted for more than 30 % of wholesale trade value added in these two Member States⁽²⁴⁾. The Benelux Member States and France (all 2001, except Luxembourg) were also relatively specialised in the wholesaling of these products. Ireland recorded a negative value added in this sector in 2002, making it the least specialised in value added terms, and representing a major change from the situation two years earlier when this sector had generated close to 30 % of Irish wholesale trade value added. Ireland apart, Slovenia, Poland and Cyprus were the Member States where wholesale trading was least concentrated in the wholesaling of machinery and equipment in 2002.

⁽²⁴⁾ Belgium, the Czech Republic, France and the Netherlands, 2001; Greece, not available.

Table 17.13
Wholesale of machinery, equipment and supplies (NACE Group 51.8)
Employment profile:
ranking of the top 3 Member States, 2002

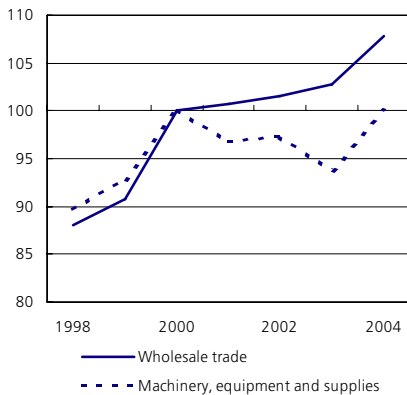
Rank	Share of EU-25 employment (%) (1)	Non-financial services employment specialisation (EU-25=100) (2)
1	France (18.4)	Denmark (236.1)
2	United Kingdom (17.2)	Finland (195.9)
3	Spain (11.3)	Belgium (179.7)

(1) Greece, not available.
(2) Greece, France and Cyprus, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

In the EU-25 the turnover index for the wholesale of machinery and equipment sector rose by 3.5 % and 7.8 % in 1999 and 2000, after which the sector experienced three years of contraction or stagnation. In 2001 the turnover index fell (-3.3 %) by more than in any other own-account wholesale trade NACE group, while in 2002 there was low growth (0.6 %) and in 2003 the index again registered a fall in turnover (-3.6 %), the only own-account wholesale trade NACE group to record a decline in this year. However, in common with several other wholesale trade sectors, the turnover index for machinery and equipment wholesaling registered an upturn in sales in 2004, with the 6.5 % increase bringing the level of activity, in current price terms, back to that recorded in 2000.

Figure 17.14

Wholesale of machinery, equipment and supplies (NACE Group 51.8)
Evolution of turnover index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 17.14

Wholesale of machinery, equipment and supplies (NACE Group 51.8)
Value added at factor cost by enterprise size class, EU average, 2002 (% of total) (1)

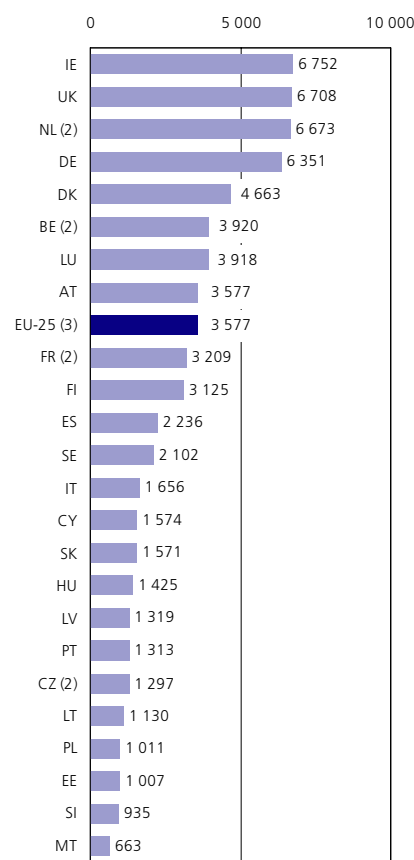
Enterprise size class	Share of value added
Micro enterprises	19.2
Small enterprises	31.0
Medium-sized enterprises	22.4
Large enterprises	27.4

(1) Spain, France, the Netherlands, Slovenia and Finland, 2001; Poland, 2000; Belgium, the Czech Republic, Greece, Ireland, Cyprus, Latvia, Lithuania, Luxembourg and Hungary, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 17.14 shows the contribution of enterprises of four different size classes to the value added generated within the wholesale of machinery and equipment sector in 2002, based on an aggregate for 16 Member States that collectively generated more than 90 % of EU-25 value added in 2000. The contribution of large enterprises (with 250 or more persons employed) to the value added total was the highest for a wholesale trade NACE group, at 27.4 %, while the contribution of micro enterprises (with less than 10 persons employed) was just 19.2 %, the lowest proportion among wholesale trade NACE groups.

Figure 17.15

Wholesale of machinery, equipment and supplies (NACE Group 51.8)
Turnover per enterprise, 2002 (EUR thousand) (1)



(1) Greece, not available.

(2) 2001.

(3) 2000.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 17.15 provides information on the average size of enterprises in the machinery and equipment wholesaling sector in terms of their turnover. In 2000 the average size in the EU-25 was EUR 3.6 million, larger than the wholesale average. Ireland, the United Kingdom, the Netherlands (2001) and Germany all recorded average sizes that were notably above the EU-25 average.

PRODUCTIVITY AND PROFITABILITY

Machinery and equipment wholesaling had the highest apparent labour productivity in 2000 (EUR 59 400 per person employed) of the NACE groups that make up the EU-25's wholesale trade sector: for comparison, apparent labour productivity was EUR 45 700 on average for wholesale trade that year. Average personnel costs per employee for machinery and equipment wholesaling were

also the highest of the EU-25's wholesale NACE groups, in this case by a large margin. In 2000 they averaged EUR 40 200 in the EU-25, exceeding the wholesale trade average by EUR 10 300 per employee, while they were more than 30 % higher than any of the other wholesale trade NACE groups. In 2002 in every Member State ⁽²⁵⁾ this sector reported higher average personnel costs than the wholesale trade average, and in the vast majority of Member States this sector had the highest average personnel costs of any wholesale trade NACE group.

In the EU-25's machinery and equipment wholesaling sector, value added per person employed represented 147.9 % of personnel costs per employee in 2000. Whereas apparent labour productivity and average personnel costs in this sector were the highest among wholesale trade NACE groups, this wage adjusted labour productivity ratio was below the wholesale trade average of 153.0 % in 2000. In fact, the wholesaling of machinery and equipment recorded the second lowest wage adjusted labour productivity ratio of all of the own-account wholesale trade NACE groups, higher only than wholesaling of agricultural products (NACE Group 51.2). In 2002 only in the Czech Republic (2001), Hungary, Slovakia and Slovenia was the wage adjusted labour productivity ratio of this sector higher than the wholesale trade average ⁽²⁶⁾. In Poland, this ratio was below 100 %, indicating that average personnel costs were higher than apparent labour productivity, and in Ireland the wage adjusted labour productivity ratio was negative, due to negative value added in this sector.

The gross operating rate in machinery and equipment wholesaling was 5.3 % in 2001 in the EU-25, slightly below the wholesale trade average in that year of 5.5 %. Given its negative value added, leading to a negative gross operating surplus, Ireland unsurprisingly had the lowest gross operating rate in this sector (-8.0 %) in 2002; among the other Member States ⁽²⁷⁾ Sweden recorded the lowest rate (1.9 %).

⁽²⁵⁾ Belgium, the Czech Republic, France and the Netherlands, 2001; Greece, not available.

⁽²⁶⁾ Belgium, the Czech Republic, France and the Netherlands, 2001; Greece, not available.

⁽²⁷⁾ Belgium, the Czech Republic, France and the Netherlands, 2001; Greece, not available.

17.6: OTHER WHOLESALE TRADE

The other wholesale trade sector covers specialised own-account wholesaling of products not covered in Subchapters 17.2 to 17.5, as well as non-specialised wholesaling, where enterprises resell a variety of products.

Note that in NACE Rev. 1 these activities were covered by Group 51.7, whereas in NACE Rev. 1.1, which is used in the present publication, the same activities are covered by Group 51.9. There is no change in the coverage, and the change in the code has been made to maintain a logical numbering of the NACE groups within NACE Division 51.

STRUCTURAL PROFILE

Turnover was EUR 180.3 billion in the EU-25 in the other wholesale trade (NACE Group 51.9) sector in 2002, which represented 5.1 % of the wholesale trade (NACE Division 51) total; therefore this sector was slightly larger than agricultural wholesaling and wholesaling on a fee or contract basis (NACE Groups 51.1 and 51.2 respectively). In value added terms, other wholesale trade's 5.0 % contribution to the wholesale trade total was larger only than agricultural wholesaling. There were 700 300 persons employed in other wholesale trade in the EU-25 in 2002, 8.1 % of the wholesale trade workforce, a considerably higher share than this sector's turnover and value added shares.

The United Kingdom's share of EU-25 value added in other wholesale trade was 24.9 % in 2002, its highest share across all of the wholesale trade NACE groups. The same was true of Poland, which had the second largest other wholesale trade sector in the EU-25, with a 22.0 % share of EU-25 value added. Germany had the next largest other wholesale trade sector, with a 19.1 % share of the EU-25 total. The Netherlands (6.7 %) apart, no other Member State ⁽²⁸⁾ contributed even 5 % of the EU-25 total. Unsurprisingly, Polish wholesale trading was strongly concentrated in the other wholesale trade sector, as its value added in this sector represented 42.7 % of its wholesale trade value added, a share that was 8.5 times as high as the EU-25 average. Wholesale trading in several other Member States was also highly concentrated in this sector in 2002, most notably Slovakia, the Czech Republic (2001), Slovenia and Hungary where this sector contributed 25.9 %, 22.8 %, 19.8 % and 17.2 % of wholesale trade value added respectively.

⁽²⁸⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Table 17.15

Other wholesale (NACE Group 51.9)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (24.9)	Poland (1 442.1)	Poland (39.1)	Poland (684.4)
2	Poland (22.0)	Slovakia (702.9)	United Kingdom (16.2)	Slovakia (489.6)
3	Germany (19.1)	Slovenia (514.8)	Germany (11.0)	Czech Republic (329.0)

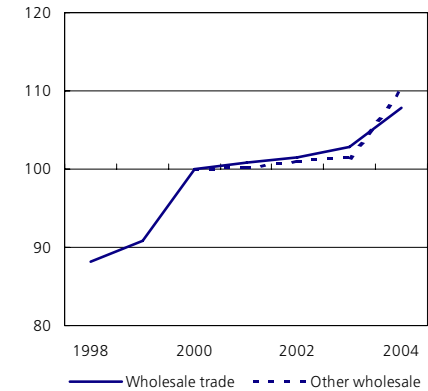
(1) Belgium, the Czech Republic, Greece and France, not available.
 (2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 (3) Greece, not available.
 (4) Greece, France and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Annual short-term statistics for the other wholesale sector showed relatively little change in EU-25 turnover in 2001 (0.2 %), 2002 (0.8 %) and 2003 (0.5 %). However, in 2004 this period of stagnation ended as the turnover index recorded an increase in sales of 8.1 %, the second highest rate of growth among the own-account wholesale trade NACE groups in that year.

Table 17.16 shows the contribution of enterprises of four different size classes to the other wholesale trade sector's value added, based on an aggregate for 13 Member States that collectively generated just over 80 % of EU-25 value added in this sector in 2000. The contribution of large enterprises (with 250 or more persons employed) to the value added total was high for a wholesale trade sector, at 24.8 %, lower only than that of the wholesale of machinery and equipment sector (NACE Group 51.8) although it should be noted that different aggregates of Member States were used for the size class analysis of these two NACE groups.

Figure 17.16

Other wholesale (NACE Group 51.9)
 Evolution of turnover index, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

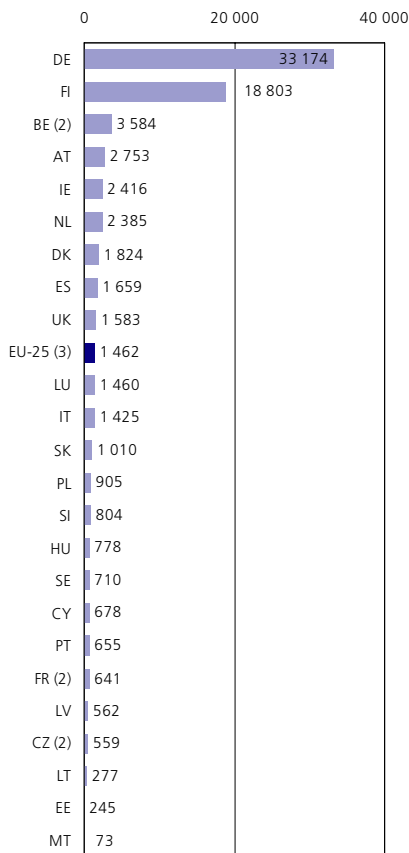
Table 17.16

Other wholesale (NACE Group 51.9)
 Value added at factor cost and employment by enterprise size class, EU average, 2002 (% of total) (1)

	Share of value added	Share of persons employed
Micro enterprises	28.8	41.3
Small enterprises	25.5	23.3
Medium-sized enterprises	20.9	15.3
Large enterprises	24.8	20.1

(1) The Czech Republic, Estonia, Spain, France and Lithuania, 2001; Belgium, Greece, Italy, Cyprus, Latvia, Luxembourg, Malta, the Netherlands, Austria, Portugal, Finland and Sweden, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Figure 17.17
Other wholesale (NACE Group 51.9)
Turnover per enterprise,
2002 (EUR thousand) (1)



(1) Greece, not available.
 (2) 2001.
 (3) 2000.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 17.17 shows average turnover of enterprises in the other wholesale trade sector. The EU-25 average for this ratio was particularly influenced by the high values reported in Germany and (to a lesser extent) Finland. Nevertheless, despite the very high averages in these two Member States, average enterprise size for the EU-25 in this sector was EUR 1.5 million in 2000, some EUR 0.8 million below the wholesale trade average, and the smallest value recorded across the own-account wholesale trade NACE groups.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 29 500 per person employed in the EU-25's other wholesale trade sector in 2002, less than two thirds the wholesale trade average. In most Member States ⁽²⁹⁾ this pattern was repeated, as apparent labour productivity for other wholesale trade was lower than national averages for wholesale trade. Average personnel costs in the other wholesale trade sector were EUR 22 500 per employee in the EU-25, equivalent to around three quarters of the wholesale trade average. The relatively low ratios for apparent labour productivity and average personnel costs for the EU-25 in this sector reflect the high weight of Poland, which recorded much lower levels for these ratios than the other large Member States.

⁽²⁹⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Wage adjusted labour productivity measures the ratio of value added to personnel costs, the latter adjusted by the share of paid employees in total employment. In the EU-25, this ratio was 131.5 % in the other wholesale trade sector in 2002; the lowest level for this ratio across all own-account wholesaling NACE groups ⁽³⁰⁾. In Latvia, the wage adjusted labour productivity ratio for other wholesale trade was double the average for wholesaling. In contrast, the other wholesale trade sector in Portugal recorded a wage adjusted productivity ratio that was less than half the Portuguese average for wholesaling, and was only 71.6 %, indicating that average personnel costs were much higher than apparent labour productivity.

The gross operating rate in the other wholesale sector was 4.6 % in the EU-25 in 2002, below the wholesale trade average of 5.4 %. The low wage adjusted labour productivity ratio in Portugal was reflected in a negative gross operating rate, as personnel costs exceeded value added leading to a negative gross operating surplus. Latvia's 27.0 % gross operating rate for other wholesale trade in 2002 was the highest of all of the Member States ⁽³¹⁾, and some 2.8 times as high as its average for wholesale trade. In contrast, in Italy and Finland the gross operating rate in this sector was less than half the wholesale trade average.

⁽³⁰⁾ Wholesaling on a fee or contract basis (NACE Group 51.1), 2001; wholesaling of machinery, equipment and supplies (NACE Group 51.8), 2000.

⁽³¹⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Table 17.17

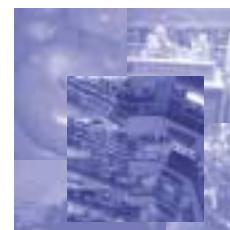
Wholesale trade and commission trade, except of motor vehicles and motorcycles (NACE Division 51)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	3 507.3	165.2	42.5	90.0	561.8	5.0	:	312.1	546.3	34.7	348.1	3.5	5.9	6.1	13.1	31.4	1.4
Production (EUR billion) (2)	929.4	35.1	8.3	42.2	111.1	1.1	:	68.2	144.4	6.9	155.7	0.8	1.1	1.4	2.1	6.3	0.3
Value added at factor cost (EUR billion) (3)	410.7	14.2	3.5	10.6	64.2	0.5	:	36.2	55.1	4.0	44.0	0.6	0.7	0.6	1.0	2.8	0.2
Gross operating surplus (EUR billion) (3)	188.3	5.7	1.7	3.5	24.5	0.3	:	15.5	15.9	1.7	27.4	0.2	0.6	0.3	0.5	1.5	0.1
Purch. of goods and serv. (EUR billion) (2)	3 016.9	142.6	37.0	69.2	495.3	4.6	:	277.6	495.0	30.9	297.0	2.9	5.3	5.5	12.0	30.2	1.2
Gross inv. in tang. goods (EUR billion) (3)	:	2.2	0.6	1.2	5.7	0.1	:	5.8	5.4	0.5	6.8	0.1	0.2	0.1	:	0.6	0.0
Number of persons employed (thousands)	8 692	213	250	166	1 149	33	:	1 017	972	70	1 058	18	44	60	14	178	10
Personnel costs (EUR billion) (3)	222.4	8.5	1.7	7.1	39.7	0.2	:	20.7	39.2	2.2	16.7	0.3	0.2	0.3	0.5	1.3	0.1
App. lab. prod. (EUR thous./pers. emp.) (3)	47.6	61.4	14.5	63.5	55.9	14.6	:	35.5	53.8	56.3	41.6	31.7	16.6	9.7	74.8	15.7	22.6
Av. pers. costs (EUR thous./employee) (3)	32.0	45.7	9.3	43.7	37.3	6.8	:	23.6	38.9	33.7	30.1	18.8	3.8	4.6	39.3	8.9	11.7
Wage adjusted labour productivity (%) (3)	148.6	134.3	155.1	145.3	149.6	213.7	:	150.7	138.3	166.7	138.0	168.0	433.8	211.0	190.2	175.9	192.7
Gross operating rate (%) (3)	5.4	3.6	4.3	3.9	4.4	5.4	:	5.0	2.9	4.9	7.9	6.9	9.5	5.2	4.2	4.7	9.1
Inv. per pers. employed (EUR thousand) (3)	:	9.5	2.4	7.4	4.9	4.0	:	5.7	5.3	6.8	6.4	6.9	3.5	2.3	:	3.5	2.4
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	266.7	92.1	109.0	61.0	7.7	10.5	48.0	94.3	618.6	12.8	:	19.8	:	:	:	65.4	111.3
Production (EUR billion)	67.5	26.8	55.7	14.5	2.3	2.6	11.6	24.0	169.0	1.9	:	4.3	:	:	:	19.6	24.0
Value added at factor cost (EUR billion)	34.6	12.0	10.7	6.9	0.9	0.9	5.5	11.7	81.6	0.5	:	1.5	:	:	:	7.8	15.5
Gross operating surplus (EUR billion)	17.0	4.5	3.3	2.9	0.3	0.4	2.2	3.2	39.1	0.3	:	0.9	:	:	:	2.6	4.9
Purch. of goods and services (EUR billion)	231.0	76.8	99.1	54.5	6.7	9.8	43.6	83.8	515.8	12.7	:	18.8	:	:	:	55.1	97.0
Gross inv. in tang. goods (EUR billion)	2.7	1.3	1.6	1.3	0.2	0.3	0.6	1.2	7.5	0.4	:	2.0	:	:	:	0.8	:
Number of persons employed (thousands)	465	209	683	269	43	78	84	217	1 230	119	:	264	:	:	:	103	164
Personnel costs (EUR billion)	17.6	7.4	7.3	4.0	0.6	0.5	3.3	8.6	42.6	0.2	:	0.6	:	:	:	5.2	10.5
App. Lab. Prod. (EUR thous./pers. emp.)	74.6	57.2	15.6	25.8	21.3	11.0	66.1	54.2	66.4	4.3	:	5.7	:	:	:	75.9	94.2
Av. Pers. costs (EUR thous./employee)	40.6	38.9	15.7	16.8	15.1	6.4	41.2	43.9	37.3	1.9	:	2.6	:	:	:	53.0	:
Wage adjusted labour productivity (%)	183.5	147.1	99.0	153.1	140.9	172.4	160.5	123.6	178.2	226.1	:	222.4	:	:	:	143.3	:
Gross operating rate (%)	6.4	4.9	3.0	4.8	4.2	3.5	4.6	3.4	6.3	2.5	:	4.5	:	:	:	4.0	4.4
Inv. per person employed (EUR thousand)	5.7	6.3	2.4	4.9	3.6	4.2	7.0	5.6	6.1	3.2	:	7.6	:	:	:	7.6	:

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium, the Czech Republic and France, 2001.

Source: Eurostat, Structural Business Statistics (theme4/sbs/enterpr)

Retail trade



Distribution and more particularly the retail trade sector is an interface between producers and consumers. Typically, one or several distributors intervene before a product which leaves the factory gate reaches the final consumer, the last of which is a retailer. Retailers represent the largest proportion of enterprises within distributive trades activities, with slightly more than 60 % of distribution enterprises in the EU-25.

Retail trade in the EU-25 is diversified in terms of size, offer and format (small stores, department stores, supermarkets, hypermarkets...), as a response to differences in consumption patterns,

population demography and socio-economic factors. Indeed, all of these aspects are reflected in the structural profile of the sector in terms of market specialisation, location, the average area of sales space, as well as the range of brands on offer, their quality and their price.

In terms of legislation, retail trade is mainly regulated by national laws that deal essentially with administrative authorisation to open retail outlets (particularly large ones), opening and closing times, working hours, limits on 'below-cost sales' by retailers, and restrictions on the sale of certain goods (like tobacco, alcohol or medicines).

Division 52 of NACE covers retail trade, as well as the repair of personal and household goods (this aggregate is simply referred to as the retail trade sector in the commentary that follows); the retail trade of motor vehicles and motorcycles is covered by NACE Division 50 (see Chapter 16). The activity of retailing covers the resale without transformation of new and used goods to the general public for personal or household use and consumption; note that the renting and hiring of personal and household goods to the public is excluded.

NACE

- 52: retail trade, except of motor vehicles and motorcycles; repair of personal and household goods;
- 52.1: retail sale in non-specialised stores;
- 52.2: retail sale of food, beverages and tobacco in specialised stores;
- 52.3: retail sale of pharmaceuticals and medical goods, cosmetic and toilet articles;
- 52.4: other retail sale of new goods in specialised stores;
- 52.5: retail sale of second-hand goods in stores;
- 52.6: retail sale not in stores;
- 52.7: repair of personal and household goods.

Over a third of the total sales made by the top 20 largest retailers in the world were made by EU-25 retailers, totalling EUR 335.9 billion according to a ranking made by Deloitte for 2002 ⁽¹⁾ (see Table 18.1). Among the top EU retailers, Carrefour (FR) had EUR 68.8 billion of turnover in 2002, followed by Metro (DE) with EUR 51.1 billion. These retailers generally operate in a wide range of countries: both inside the EU, in other areas of Europe, as well as in the Americas and Asia. Within the ranking, eight of the ten most important EU-25

⁽¹⁾ Deloitte, 2004 Global Powers of Retailing, Stores, January 2004, more information at: <http://www.stores.org/pdf/GlobalRetail04.pdf>.

Table 18.1
Top 20 global retailers, 2002

	Country of origin	Sales (EUR billion)	Average annual growth rate of sales, 1997-2002 (%)
Wal-mart	US	242.8	14.2
Carrefour	FR	68.8	18.7
Home Depot	US	61.6	19.2
Kroger	US	54.7	14.3
Metro	DE	51.1	12.4
Target	US	45.2	9.0
Ahold	NL	43.1	12.5
Tesco	UK	42.4	9.7
Costco	US	40.2	9.8
Sears	US	37.8	-2.9
Albertsons	US	37.7	19.4
Aldi Einkauf (1)	DE	35.8	15.2
Safeway, Inc	US	34.3	7.6
JCPenney	US	34.2	1.8
Intermarché (1)	FR	33.5	9.2
Rewe	DE	33.2	7.4
Kmart	US	32.5	-0.9
Walgreens	US	30.3	16.5
Edeka/AVA	DE	28.0	17.2
Lowe's	US	28.0	21.2

(1) Estimates.

Source: Deloitte, 2004 Global Powers of Retailing, Stores, January 2004, <http://www.deloitte.com> and <http://www.stores.org>

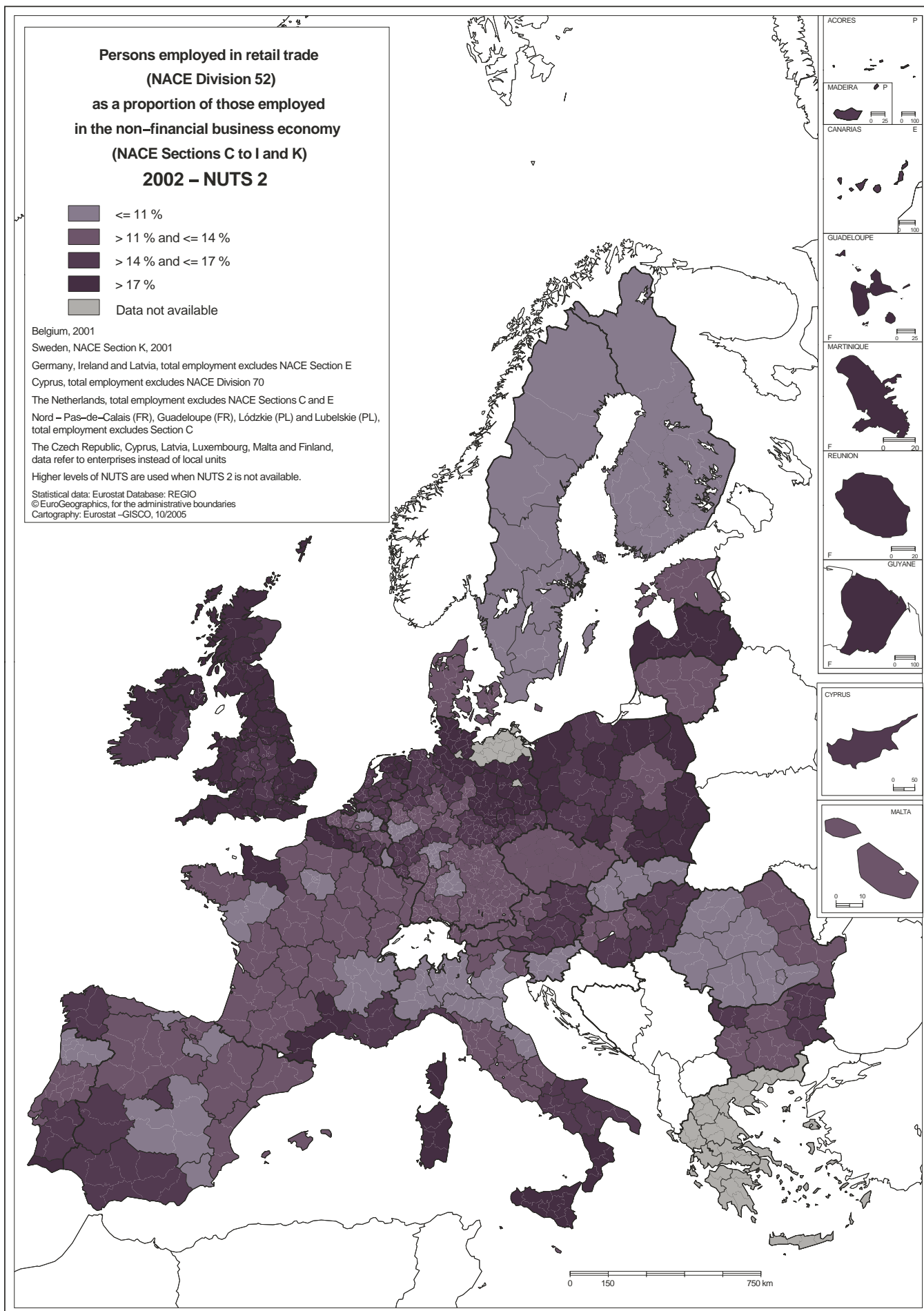


Table 18.2

Retail trade; repair of personal and household goods (NACE Division 52)
Structural profile, EU-25, 2002

	Turnover (EUR million)	Share of non-financial services turnover (%)	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Retail trade (including repair)	1 886 856	18.5	351 624	13.5	15 488	22.5
Non-specialized stores (1)	767 939	:	109 684	:	5 471	8.0
Specialised food retailing	115 820	1.1	22 340	0.9	1 302	1.9
Pharmaceutical & medical goods, cosmetics & toiletries	157 252	1.5	33 759	1.3	1 051	1.5
Other new goods in specialized stores (1)	647 253	:	139 626	:	6 456	9.4
Second-hand goods in stores (1)	14 413	:	1 643	:	101	0.1
Sales not in stores	91 741	0.9	18 471	0.7	866	1.3
Repair of personal and household goods (2)	9 805	:	4 138	:	241	0.4

(1) For value added: Belgium, the Czech Republic and France, 2001; for turnover and value added: Greece and the Netherlands, not available.

(2) Turnover and value added, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

retailers were principally food retailers. China is perceived as one of the most important consumer markets in the world, given its rapid economic growth and the potential size of its domestic market. Both of the EU's largest retailers, Carrefour and Metro, have already entered the Chinese market, where they have been joined by a number of other supermarket/hypermarket retailers, for example Auchan (FR).

E-commerce has in recent years played an increasing role in the shopping patterns of consumers, who may prefer to order goods from their home for convenience, or alternatively purchase items from afar that are not on offer within their local retail market. According to Eurostat's information society statistics, some 8.6 % of the turnover of wholesale and retail trade enterprises with ten or more persons employed was derived from e-commerce in 2004. Note that this figure includes not only sales by enterprises to consumers making on-line purchases, but also includes the turnover derived by wholesale enterprises supplying clients in the retail and other sectors.

STRUCTURAL PROFILE

In 2002, the retail trade sector (NACE Division 52), generated EUR 1 887 billion of turnover in the EU-25 and employed some 15.5 million persons, while value added was EUR 351.6 billion. The relative size of the retail trade sector varies considerably according to which economic indicator is used to measure its importance: in value added terms it accounted for 39.2 % of the distributive trades (NACE Section G) total, which was lower than the share accounted for by the wholesale trade sector, while in terms of employment it was the largest of the distribution activities (55.6 % of the total).

Table 18.3

Retail trade; repair of personal and household goods (NACE Division 52)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (22.3)	Slovenia (119.8)	United Kingdom (19.9)	Poland (136.3)
2	Germany (18.6)	Poland (113.5)	Germany (15.9)	Latvia (127.8)
3	France (16.5)	Portugal (112.5)	Italy (11.1)	Lithuania (122.6)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A breakdown of turnover for retail trade activity highlights the importance of the retail trade of non-food items in-store (NACE Class 52.12 and Groups 52.3 to 52.5, see Subchapter 18.2). Indeed, these activities accounted for approximately 50 % of the turnover generated within the EU-25's retail trade sector in 2002, while around 44 % came from the sale of food items in-store (NACE Class 52.11 and Group 52.2, see Subchapter 18.1). Some 5 % of retail trade turnover was generated by retail sales not in-store (NACE Group 52.6), which includes food and non-food retailing through retail channels other than stores, such as markets, kiosks and mail-order (see Subchapter 18.3). Finally, the very small activity of repair of personal and households goods (NACE Group 52.7) contributed less than 1 % of the turnover created within the EU-25's retail trade sector (see Subchapter 18.4).

Across the Member States ⁽²⁾ a similar pattern was often repeated with the largest proportion of turnover coming from the retail sale of non-

⁽²⁾ Belgium, the Czech Republic, Greece, France and the Netherlands, not available.

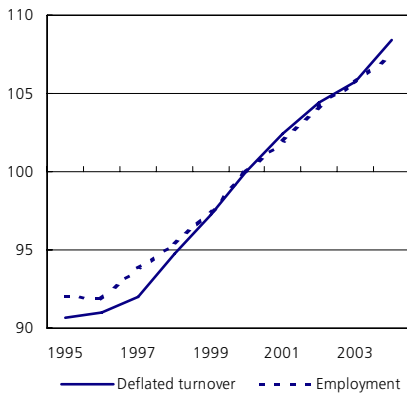
food items in-store. However, in-store food retailing accounted for a higher proportion of retail trade turnover in Estonia, Lithuania and Slovenia in 2002. The proportion of retail trade turnover that was generated not in-stores (NACE Group 52.6), ranged from as much as 10 % in Germany (where mail order purchases were particularly high) to a low of 1.2 % in Ireland and Denmark ⁽³⁾.

Turning to a breakdown of EU ⁽⁴⁾ retail trade value added based on information available for 24 of the Member States, the United Kingdom accounted for the largest share (22.3 %) of the EU-25's retail trade sector in 2002, with Germany reporting the second highest share (18.6 %), followed by France (16.5 %, 2001) and Italy (10.7 %). In terms of the number of persons employed, the largest Member States in the EU-25's retail trade sector were again the United Kingdom (19.9 %) and Germany (15.9 %), followed by Italy (11.1 %) and Spain (10.2 %), while the share of France was relatively low (9.4 %) compared with its share of value added.

⁽³⁾ Greece, not available.

⁽⁴⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Figure 18.1
Retail trade; repair of personal and household goods (NACE Division 52)
Evolution of main indicators, EU-25 (2000=100)

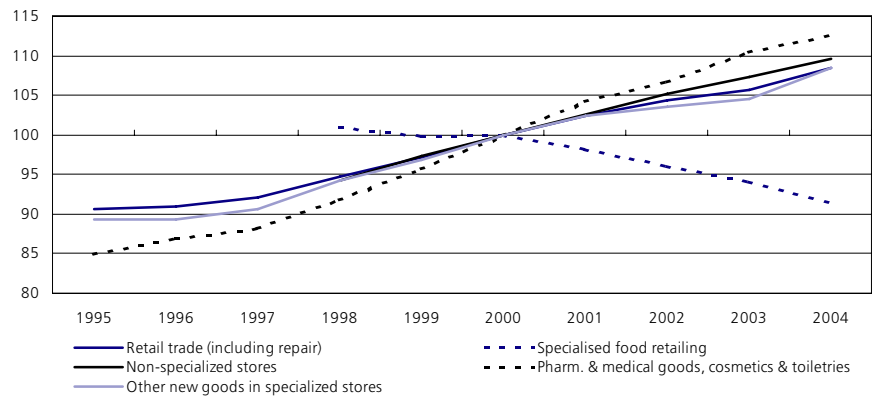


Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Short-term statistics for retail trade provide information on the volume of sales and employment. The deflated turnover index is an indicator of final domestic demand which can be used as part of a business cycle analysis. The EU-25's volume of sales index for retail trade rose every year between 1995 and 2004, with a modest rate of development up until 1997, after which the pace of growth quickened, with growth in excess of 2.0 % per annum from 1998 to 2001. The annual growth of sales then slowed in consecutive years, passing from 2.4 % in 2001 to 1.3 % by 2003. However, in 2004 there was a clear sign of recovery as the volume of sales index rose by 2.5 %. At a more detailed level it can be noted that the volume of sales index rose for three of the four NACE groups for which EU-25 information is available - see Figure 18.2, with the most rapid gains recorded for the retail sale of pharmaceutical and medical goods, cosmetic and toilet articles (NACE Group 52.3). In contrast, there was a contraction in the volume of sales for food, beverages and tobacco in specialized stores (NACE Group 52.2), which might be explained by consumers opting to shop through other retail formats, for example, in supermarkets and hypermarkets, or over the Internet.

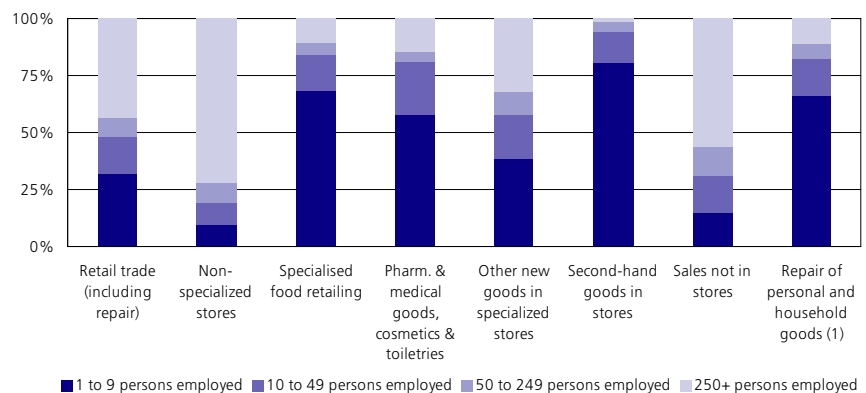
The index of employment (see Figure 18.1) followed a similar path to that for the volume of sales, with EU-25 growth rates for retail trade systematically above 1.5 % per annum during the period 1997 to 2004. The fastest annual employment increase was recorded between 1999 and 2000, when a net increase of 2.6 % was recorded, while the latest rate of change (for 2004) was at the lower end of the range, up 1.6 %.

Figure 18.2
Retail trade; repair of personal and household goods (NACE Division 52)
Deflated turnover indices, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 18.3
Retail trade; repair of personal and household goods (NACE Division 52)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

A size class analysis for the EU-25's retail trade sector is available for 2001 - see Figure 18.3. It shows that large enterprises (with 250 or more persons employed) generated the highest proportion of retail trade value added (43.8 %), with their share 13.3 percentage points higher for retail trade than the average for distributive trades. The importance of large enterprises was particularly pronounced for sales in non-specialized stores (NACE Group 52.1) and for retail sales not in stores (NACE Group 52.6). The next largest contribution to EU-25 retail trade value added was made by micro enterprises (with less than 10 persons employed), contributing just under one third (31.8 %) of the total in 2001. These enterprises were particularly prominent for the sale of food, beverages and tobacco in specialized

stores (NACE Group 52.2), the sale of second-hand goods in stores (NACE Group 52.5), and the repair of personal and household goods (NACE Group 52.7), where they accounted for two thirds or more of the EU-25's total value added.

Table 18.4
Retail trade; repair of personal and household goods (NACE Division 52)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years
EU-25	38.7	69.7	70.7	88.0	18.3	61.4	20.3
BE	40.9	69.4	67.0	85.3	13.6	69.3	17.2
CZ	34.3	64.0	92.4	98.1	10.9	66.7	22.4
DK	46.4	78.0	54.3	73.1	43.3	40.1	16.6
DE	32.9	63.3	59.7	81.1	13.0	61.4	25.6
EE	25.3	50.0	90.6	100.4	10.1	68.0	23.1
EL	51.3	84.5	95.7	99.6	11.1	70.0	18.9
ES	39.2	69.7	88.2	97.9	15.4	67.3	17.3
FR	39.6	70.4	75.9	89.6	15.1	65.6	19.3
IE	38.2	70.5	63.8	80.9	30.1	53.9	16.0
IT	46.9	78.9	80.5	95.5	10.4	68.9	20.7
CY	45.1	85.1	86.2	94.0	13.9	58.6	27.4
LV	29.5	58.1	90.9	100.2	13.7	68.1	18.2
LT	34.1	64.7	90.9	97.0	9.5	77.5	13.0
LU	35.0	59.1	78.2	92.4	11.0	72.4	16.6
HU	37.9	70.6	94.2	99.5	11.8	69.2	19.0
MT	69.3	97.6	91.4	101.7	27.3	54.1	18.6
NL	40.0	69.1	34.9	63.4	40.5	44.5	15.0
AT	31.8	63.1	62.1	83.4	18.1	65.7	16.2
PL	33.2	62.1	86.9	96.7	16.1	70.0	13.9
PT	42.5	76.3	90.6	97.4	16.0	59.2	24.8
SI	36.9	71.3	93.0	101.5	15.2	72.4	12.4
SK	29.3	57.4	95.4	98.8	14.2	70.6	15.2
FI	31.7	59.0	67.7	81.4	23.4	52.6	23.9
SE	37.7	63.6	55.3	72.6	24.7	51.1	24.2
UK	39.9	71.6	51.4	72.4	29.8	48.4	21.8

(1) Estonia, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

According to results from the Labour Force Survey, the EU-25's retail trade workforce had a relatively high proportion of women, 61.3 % in 2004, which was 16.9 percentage points above the average for the services sector (NACE Sections G to K). Indeed, the retail trade workforce had the second highest proportion of women in its workforce among all of the NACE divisions that make-up the business economy (NACE Sections C to K), behind the manufacture of clothing (NACE Division 18, 79.8 %). The female share of retail trade employment was systematically higher than that recorded for services as a whole in each of the Member States, with the difference ranging from 8.3 percentage points in Malta up to around 20 percentage points in Finland and Sweden.

The EU-25's retail trade sector was also characterised by a higher recourse to part-time work (29.3 % of the workforce in 2004) when compared with the services average (19.7 %); the proportion of part-time employment in retail trade activities was the highest among all of the NACE divisions that constitute the business economy. This pattern was particularly evident in the northern Member States, as the proportion of part-time employment in retail trade in Sweden, Denmark, the Netherlands, Finland and the United Kingdom was more than 10 percentage points higher than the national services average.

The EU-25's retail trade workforce employed a relatively high number of young persons, as 18.3 % of those employed in 2004 were aged between 15 and 24, compared with 12.9 % for the services sector as a whole.

PRODUCTIVITY AND PROFITABILITY

Given the importance of part-time employment, care should be taken when comparing measures of productivity based on simple head counts across Member States or activities (for example, ratios such as apparent labour productivity per person employed or average personnel costs per employee). EU-25 apparent labour productivity in the retail trade sector was EUR 22 700 and average personnel costs were EUR 17 100 per employee in 2002.

The wage adjusted labour productivity ratio is based on the value added generated relative to expenditure on personnel costs, and therefore this calculation does not face the problem of head counts. Furthermore, it is adjusted by the ratio of paid employees to persons employed, in order to remove the impact of working proprietors and family workers that contribute to value added but are not included in personnel costs: this adjustment is particularly important in retail trade activities where self-employment is often very high. The EU-25's wage adjusted labour productivity ratio was 132.5 % in 2002, compared with 144.4 % for distributive trades. In relation to the other distribution activities, the EU-25's wage adjusted labour productivity ratio was lower for the retail trade sector than for both wholesale trade and motor trades, by at least 22.1 percentage points in 2002. The wage adjusted labour productivity ratio was lower for retail trade when compared with the average

Table 18.5

Retail trade; repair of personal and household goods (NACE Division 52)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (35.2)	Sweden (28.4)	Latvia (175.6)	Malta (12.6)
2	Finland (35.0)	France (25.3)	Malta (163.5)	Italy (9.1)
3	France (33.8)	Finland (24.9)	Ireland (154.1)	Spain (9.0)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

for the whole of distributive trades, among all of the Member States for which data are available ⁽⁵⁾, except France; Latvia recorded the largest gap between the two ratios, as wage adjusted labour productivity for distributive trades was 1.7 times as high as for retail trade.

⁽⁵⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

The gross operating rate, calculated as the ratio of gross operating surplus to turnover, is an indicator of profitability. In 2002 this ratio in the EU-25's retail trade sector was 7.8 % more than for either motor trades or wholesale trades.

18.1: RETAIL TRADE OF FOOD ITEMS IN-STORE

This subchapter covers the retail sale of food, beverages and tobacco, either in specialised stores (NACE Group 52.2) or in non-specialised stores which have a predominance of these products (NACE Class 52.11). The activities are referred to as specialised food retailing and non-specialised food retailing within this subchapter.

Food retailing specialists are generally small retail outlets that do not belong to national or international chains; for example, fruit and vegetable shops, bakers, butchers and fishmongers. Non-specialised food retailers offer consumers the opportunity to buy a broader range of products at a sole point of purchase (for example, supermarkets or hypermarkets), and often at a lower price level than in specialised stores, which may result in competitive pressures for specialised food retailers. Large non-specialised food retailers, in particular, may have greater price flexibility, as they are able to accept lower margins on certain products, as well as exerting greater purchasing power on their suppliers; furthermore, they may have their own integrated wholesale activities. While the number of pan-European brands has increased significantly and consumers can find most of them in a wide range of Member States, it is important to bear in mind that food retailers also work with local suppliers, often reflecting

local supply, social and cultural characteristics, all of which influence the choice of food and beverages that are available within a particular region.

Contrary to many non-food items, food is a typically inelastic good, which means that when prices rise, consumers generally do not cut back as much on the total quantity purchased, although price increases may influence the choice of brand or retailer chosen by individual customers.

STRUCTURAL PROFILE

Although no EU-25 aggregate is available for non-specialised food retailing (NACE Class 52.11), information for 23 of the Member States ⁽⁶⁾ suggests that EU turnover from this activity was valued at EUR 685 billion in 2002, which was approximately six times as high as the turnover generated in specialised food retailing activities (NACE Group 52.2). Data for the same group of 23 Member States shows that the non-specialised food retailing subsector created some EUR 94.0 billion of added value in 2002, while providing employment to 4.3 million persons.

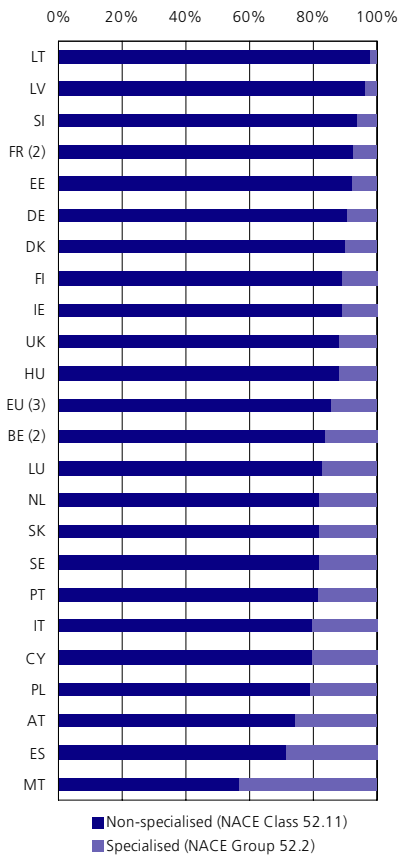
⁽⁶⁾ Belgium and France, 2001; the Czech Republic and Greece, not available.

The EU-25's specialised food retailing subsector (NACE Group 52.2) generated EUR 115.8 billion of turnover in 2002, equivalent to 6.1 % of the retail trade total (NACE Division 52). The wealth creation of specialised food retailing was valued at EUR 22.3 billion (6.4 % of the retail trade total), while this activity employed 1.3 million persons (8.4 % of the retail trade total).

With EUR 26.1 billion of turnover and 1.3 million persons employed in 2002, the United Kingdom was by far the largest of all the Member States with available data for the retail trade of food items in-store (NACE Class 52.11 and NACE Group 52.2) ⁽⁷⁾. Germany followed with EUR 19.1 billion of turnover and 798 000 persons employed, while in 2001 France reported EUR 21.9 billion of turnover and 673 900 persons employed.

⁽⁷⁾ Belgium and France, 2001; the Czech Republic and Greece, not available.

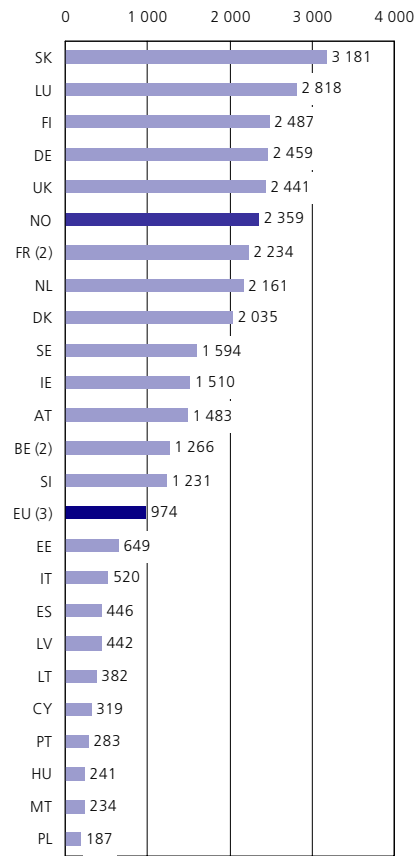
Figure 18.4
Retail trade of food items (in-store)
(NACE Class 52.11 and Group 52.2)
Breakdown of turnover,
2002 (%) (1)



(1) The Czech Republic and Greece, not available.
 (2) 2001.
 (3) Belgium and France, 2001; excluding the Czech Republic and Greece.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A breakdown of in-store food retailing for 2002 shows that the Baltic States had the lowest proportion of turnover from specialised food retailing (NACE Group 52.2), along with Slovenia and France (2001), as specialised food retailing accounted for less than 8 % of in-store food retailing turnover in each of these Member States – see Figure 18.4. In contrast, Malta registered by far the highest contribution from specialised food retailing, as more than 40 % of in-store food retailing turnover was generated within this activity. Specialised food retailing was also relatively common in many of the other southern European countries – notably in Spain, Cyprus, Italy and Portugal – although specialised food retailing also accounted for more than a fifth of in-store food retailing turnover in Austria and Poland.

Figure 18.5
Retail trade of food items (in-store)
(NACE Class 52.11 and Group 52.2)
Turnover per enterprise,
2002 (EUR thousand) (1)

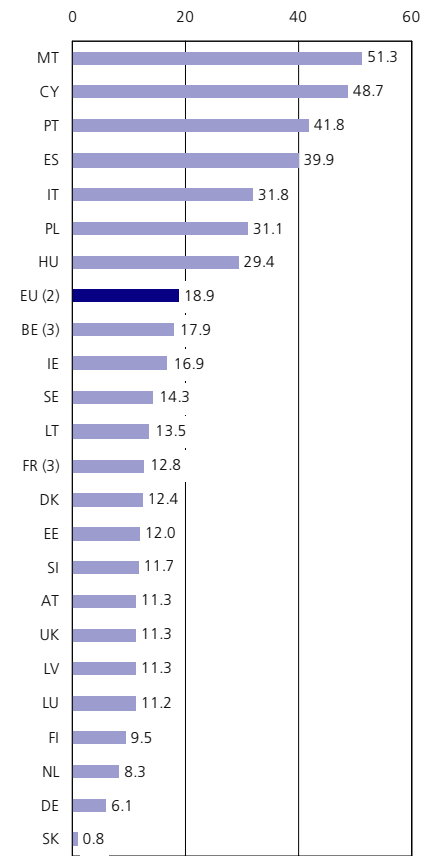


(1) The Czech Republic, incomplete; Greece, not available.
 (2) 2001.
 (3) Belgium and France, 2001; excluding the Czech Republic and Greece.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A more detailed analysis of the specialised food retailing subsector, at the NACE class level, shows that in nine of the 22 Member States for which turnover data are available for 2002⁽⁸⁾, the retail sale of meat and meat products (NACE Class 52.22) was the largest single activity. It accounted for 59.8 % of sales in the specialised food retailing subsector in Luxembourg and more than 45 % of turnover in France (2001), Portugal and Cyprus. In six of the remaining Member States, the largest share of turnover in the specialised food retailing subsector was generated by the retail sale of alcoholic and other beverages (NACE Class 52.25), with the highest contributions recorded in Sweden (56.5 %) and Estonia (53.0 %) – the four other Member States where the retail sale of alcoholic and other

⁽⁸⁾ France, 2001; Belgium, the Czech Republic and Greece, not available.

Figure 18.6
Retail trade of food items (in-store)
(NACE Class 52.11 and Group 52.2)
Breakdown of turnover,
2002 (%) (1)

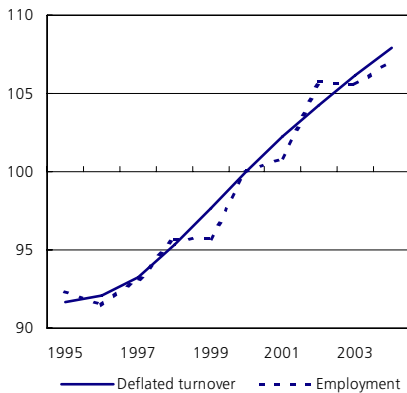


(1) The Czech Republic, incomplete; Greece, not available.
 (2) Belgium and France, 2001; excluding the Czech Republic and Greece.
 (3) 2001.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics and Demography (Population and social conditions/Population/Demography)

beverages was highest included the two other Baltic States, Germany and the United Kingdom. In Denmark, Spain, Malta and Austria, the retail sale of tobacco products (NACE Class 52.26) generated the highest turnover among specialised food retailers, reaching 60.5 % of turnover in Austria. Note that no split is available for the retail sale of alcoholic and other beverages and the retail sale of tobacco products in Finland, however these two activities (NACE Classes 52.25 and 52.26) together accounted for 82.3 % of the turnover generated in the specialised food retailing subsector. It should be noted that in Finland and Sweden the sale of alcoholic beverages is only allowed in publicly controlled specialised stores. Poland was the only Member State to report that the miscellaneous grouping

Figure 18.7

**Retail trade of food items (in-store)
(NACE Class 52.11 and Group 52.2)
Evolution of main indicators, EU-25
(2000=100)**



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

of other retail sale of food in specialised stores (NACE Class 52.27) was its largest activity, accounting for 64.4 % of Polish turnover within the specialised food retailing subsector.

An analysis of turnover per enterprise (not the number of outlets) provides an idea of the average size of enterprises (see Figure 18.5 on the previous page). In 2002, among the Member States for which data are available ⁽⁹⁾, the largest food retailers were found in Slovakia and Luxembourg and the smallest in Poland, Malta and Hungary. A similar analysis for specialised and non-specialised food retailing subsectors shows that the average turnover per enterprise of non-specialised food retailers was 19 times as high as that of specialised food retailers in France, the highest ratio among the Member States. Relatively high ratios were also recorded in some of the north western Member States, notably in the Netherlands, Germany, the United Kingdom and Denmark. An alternative measure that can be used to study the distribution of enterprises is to create a ratio of enterprises per 10 000 inhabitants – see Figure 18.6 (also on the previous page). This measure confirms the information presented on the average size of enterprises, as measured by their turnover, insofar as Malta, Cyprus, Portugal, Spain and Italy had the highest density of enterprises per 10 000 inhabitants (suggesting they had a higher proportion of relatively small, specialised enterprises), while Finland, the Netherlands, Germany and Slovakia had the lowest (suggesting that in-store food retailing in these Member States was concentrated among non-specialised food retailers).

⁽⁹⁾ Belgium, and France, 2001; the Czech Republic, incomplete data; Greece, not available.

Table 18.6

**Retail trade of food items (in-store) (NACE Class 52.11 and Group 52.2)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)**

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Finland (36.6)	Sweden (26.3)	Malta (198.8)	Malta (10.9)
2	France (32.5)	Finland (25.0)	Latvia (174.3)	Spain (7.1)
3	Sweden (31.1)	Belgium (23.5)	Lithuania (163.3)	Ireland (6.9)

(1) Belgium and France, 2001; the Czech Republic and Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Short-term statistics show that over the period 1996 to 2004 there were positive annual developments for the volume of sales index for EU-25 food retailing. However, two phases of development could be distinguished: a marked acceleration in the pace of turnover growth during the years 1996 to 1999 from a modest 0.5 % recorded in 1996 to a peak of 2.5 % in 1999; from 2000 onwards there was a steady deceleration, with the latest rate showing sales rising by 1.6 % in 2004. When compared against the evolution of the volume of sales index for retail trade (NACE Division 52), turnover from food retailing rose at a faster than average pace in 1996 and 1997, as well as in 2003, while turnover from non-food items tended to rise at a more rapid pace when the whole economy was growing more rapidly.

PRODUCTIVITY AND PROFITABILITY

EU-25 productivity indicators are only available for the specialised food retailing subsector where in 2002 apparent labour productivity was EUR 17 200 per person employed and average personnel costs were EUR 13 400 per employee. These values were rather low compared with the retail trade sector as a whole, some EUR 5 500 lower for apparent productivity and EUR 3 700 lower for average personnel costs per employee. The resulting wage adjusted labour productivity ratio for the EU-25 for specialised food retailing was 127.8 %, compared with a 132.5 % average for retail trade.

Among the Member States with available data ⁽¹⁰⁾, the wage adjusted labour productivity ratio for the retail trade of food items in-store was highest in Malta (198.8 %), followed by Latvia (174.3 %), while Lithuania, the Netherlands, Finland and Ireland also recorded ratios above 145 %. A comparison between non-specialised and specialised food retailing subsectors shows that wage adjusted labour productivity tended to be higher for non-specialised food retailing in 2002; however, the opposite was true in Poland, Belgium (2001), Denmark, Austria, the United Kingdom, Germany and the Netherlands.

The gross operating rate, an indicator of profitability, shows that the operating surplus for the EU-25's specialised food retailing sector was equivalent to 10.5 % of turnover in 2002. Among the Member States, this measure of profitability was lowest in Slovakia, where it was negative (-0.3 %) and the Czech Republic (1.0 %), while it was highest in Italy (14.8 %). The situation in Slovakia of a negative gross operating rate indicates that personnel costs in this subsector were higher than value added. Based on a limited set of information for 22 of the Member States ⁽¹¹⁾, the EU's gross operating rate for non-specialised food retailing was 5.7 % in 2002.

⁽¹⁰⁾ Belgium and France, 2001; the Czech Republic and Greece, not available.

⁽¹¹⁾ Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

18.2: RETAIL TRADE OF NON-FOOD ITEMS IN-STORE

One of the activities covered by this subchapter is retail sale in non-specialised stores that do not have a predominance of food, beverages or tobacco (NACE Class 52.12); in particular this activity includes department stores with a general line of merchandise. Three NACE groups for specialised non-food retailing are also covered: dispensing chemists, as well as specialised retailers of medical, orthopaedic, cosmetic and toilet articles (NACE Group 52.3); other specialised stores selling new goods (NACE Group 52.4), for example, shops selling clothes, shoes, furniture, books or electrical items; and the retail sale of second hand products (NACE Group 52.5), for example, shops selling antiques, second-hand books or clothes. Note that the retail sale of motor vehicles, whether new or second hand, and of automotive fuel are not covered by this subchapter (see Chapter 16), nor is renting and hiring of personal and household goods to the general public (see Chapter 21).

This subchapter deals with the retailing of consumer non-durable, semi-durable and durable goods, contrary to the previous subchapter that only covered food items that are by definition non-durables. Among the retailing of non-durable goods are pharmaceuticals, cosmetics and toilet articles, while semi-durable goods include clothing and footwear. Electrical household appliances and radio and television equipment are examples of durable goods. The retailing of second hand goods deals by definition with the sale of semi-durable and durable items only.

Compared with food retailing, non-food retailing is more strongly influenced by the general economic cycle. Most non-food items are bought with a lower frequency or at a certain period of the year, although there are examples of non-durable non-food products

that are purchased on a frequent basis (for example, newspapers). For the retail sale of clothes and footwear, promotional sales or changes in seasons determine cycles, while the purchase of some other goods (for example, games and toys) may be concentrated around special events (like Christmas).

According to a report on global retailing published by Deloitte and Stores magazine at the beginning of the year 2004 ⁽¹²⁾, there are significant opportunities for EU-25 retailers in the emerging markets of China and Russia, with stores being opened by chains such as B&Q (UK) and IKEA (SE).

STRUCTURAL PROFILE

The retail trade of non-food items in stores (NACE Class 52.12 and Groups 52.3 to 52.5) generated over EUR 908 billion of turnover in 2002 in the EU among the 22 Member States for which information is available ⁽¹³⁾, which represented approximately 50 % of all retail trade (NACE Division 52) turnover. In-store non-food retailing employed 8.4 million persons in 2002 in the EU for the same 22 Member States, which was equivalent to just over 54 % of the retail trade total.

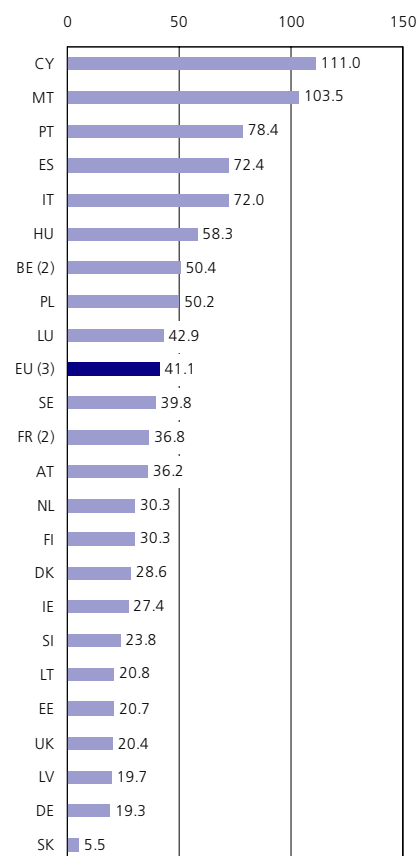
The retail density of enterprises in the in-store non-food retailing sector (41.1 enterprises per 10 000 inhabitants) was higher than for food retailing (18.9 enterprises per 10 000 inhabitants) in 23 Member States for which data are available in 2002 ⁽¹⁴⁾ - see Figure 18.8.

⁽¹²⁾ Deloitte and Stores, '2004 Global powers retailing' (January 2004), report available at: <http://www.stores.org/pdf/GlobalRetail04.pdf>.

⁽¹³⁾ For other retail sale in non-specialized stores (NACE Class 52.12): Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

⁽¹⁴⁾ Belgium and France, 2001; excluding the Czech Republic and Greece.

Figure 18.8.
Retail trade of non-food items (in-store) (NACE Class 52.12 and Groups 52.3 to 52.5) Enterprises per 10 000 inhabitants, 2002 (units) (1)



(1) The Czech Republic, incomplete data; Greece, not available.

(2) 2001.

(3) Belgium and France, 2001; excluding the Czech Republic and Greece.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics and Demography (Population and social conditions/Population/Demography)

Table 18.7

Retail trade of non-food items (in-store) (NACE Class 52.12 and Groups 52.3 to 52.5) Structural profile, EU-25, 2002

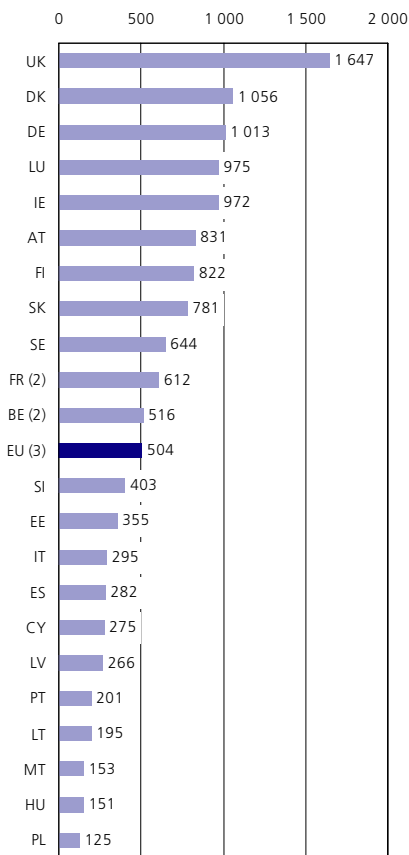
	Turnover (EUR million)	Share of non-financial services turnover (%)	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Other retail sale in non-specialized stores (1)	88 607	:	18 706	:	800	:
Pharmaceutical & medical goods, cosmetics & toiletries	157 252	1.5	33 759	1.3	1 051	1.5
Other new goods in specialized stores (2)	647 253	6.3	139 626	:	6 456	9.4
Second-hand goods in stores (2)	14 413	0.1	1 643	:	101	0.1

(1) Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

(2) For value added: Belgium, the Czech Republic and France, 2001; Greece and the Netherlands, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 18.9
Retail trade of non-food items (in-store)
(NACE Class 52.12 and Groups 52.3 to 52.5)
Turnover per enterprise,
2002 (EUR thousand) (1)

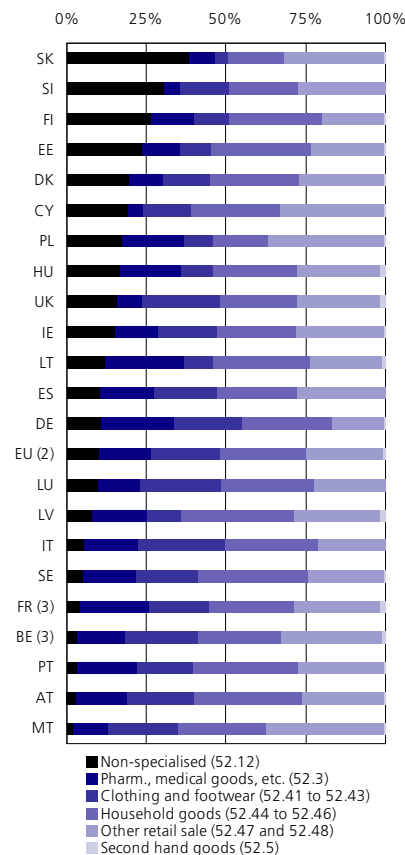


(1) The Czech Republic and the Netherlands, incomplete data; Greece, not available.
(2) 2001.
(3) Belgium and France, 2001; excluding the Czech Republic, Greece and the Netherlands.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The United Kingdom was the largest market among the Member State for the retail trade of non-food items in stores, with slightly under a quarter (22.8 %) of the turnover generated by the 22 Member States for which a full set of data are available ⁽¹⁵⁾. The United Kingdom also recorded by far the highest average turnover per enterprise at EUR 1.6 million in 2002 – see Figure 18.9. Germany (18.5 %), France (15.2 %, 2001) and Italy (13.9 %) were the next largest Member States for the retail trade of non-food items in stores, and together with the United Kingdom these were also the largest employers, as 21.7 % of the workforce (in the 22 countries for which data are available) were employed in the United Kingdom, 18.9 % in Germany, 12.3 % in Italy, and 10.9 % in France.

⁽¹⁵⁾ Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

Figure 18.10
Retail trade of non-food items (in-store)
(NACE Class 52.12 and Groups 52.3 to 52.5)
Breakdown of turnover,
2002 (%) (1)



(1) The Czech Republic and the Netherlands, incomplete data; Greece, not available.
(2) Belgium and France, 2001; excluding the Czech Republic, Greece and the Netherlands.
(3) 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

In-store non-food retailing can be analysed by activity, with the retail sale of other new goods in specialised stores (NACE Group 52.4) generating 72.5 % of turnover in the 22 Member States for which data are available ⁽¹⁶⁾. The retail sale of pharmaceutical and medical goods, cosmetic and toilet articles (NACE Group 52.3) was the second largest activity with 16.6 % of turnover, while non-food retail sale in non-specialised stores (NACE Class 52.12) was the third largest contributor to the sector's turnover (10.2 %). The smallest subsector, according to this analysis, was the retail sale of second-hand goods in stores (NACE Group 52.5) which generated just 0.8 % of the turnover within stores for non-food retailing – as shown in Figure 18.10. A breakdown of the total number of persons

⁽¹⁶⁾ Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

employed in non-food retailing into the same subsectors shows the same order of importance, with more than three quarters of the workforce employed within the retail sale of other new goods in specialised stores, while 12.5 % worked in the retail sale of pharmaceutical and medical goods, cosmetic and toilet articles and 10.3 % in non-food retail sale in non-specialised stores, while the residual share of 1.1 % was employed in the retail sale of second-hand goods in stores.

A more detailed analysis for NACE Group 52.4 provides an indication of the relative importance of the different non-food products that were sold in specialised stores. The activity of retail sale of household equipment (NACE Classes 52.44 to 52.46) generated 26.9 % of in-store non-food turnover in 2002 among the same 22 Member States ⁽¹⁷⁾, the retail sale of books, newspapers and other items (NACE Classes 52.47 and 52.48) accounted for 24.3 %, while the activity of retail sale of textiles, clothing, footwear and leather goods (NACE Classes 52.41 to 52.43) generated 21.3 %. Among the activities covered by NACE Group 52.3, dispensing chemists (NACE Class 52.31) generated 12.8 % of in-store non-food turnover, the retail sale of cosmetic and toilet articles (NACE Class 52.33) some 3.2 %, and the retail sale of medical and orthopaedic goods (NACE Class 52.32) just 0.6 %.

Product specialisation in the Member States

The share of other retail sale in non-specialised stores (NACE Class 52.12) in the turnover of the in-store non-food retailing sector (NACE Class 52.12 and Groups 52.3 to 52.5) was particularly high in Slovakia, Slovenia and Finland where it accounted for more than a quarter of the total in 2002, more than 2.5 times as high as the EU average based on data available for 22 of the Member States ⁽¹⁸⁾ (10.2 %). At the other end of the range, Malta, Austria, Portugal, Belgium and France (both 2001) all reported that other retail sales in non-specialised stores accounted for less than 4.0 % of turnover in their respective in-store non-food retailing sectors.

The retail sale of pharmaceutical and medical goods, cosmetic and toilet articles (NACE Group 52.3) represented more than 20 % of in-store non-food retailing turnover in Lithuania, Germany and France (2001), a share that was at least 1.3 times as high as the EU average based on available data for the same 22 Member States (16.6 %). In Slovenia, Cyprus, Slovakia and the United Kingdom, this subsector generated less than 10.0 % of sectoral turnover.

⁽¹⁷⁾ Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

⁽¹⁸⁾ Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

The retail sale of other new goods in specialised stores (NACE Group 52.4) accounted for almost three quarters of the turnover generated in the 22 Member States for which data are available in 2002. More detailed information reveals that the retailing of clothing, footwear and leather goods in specialised stores (NACE Classes 52.41 to 52.43) accounted for more than a quarter of the turnover generated in stores by the non-food retailing sector in Italy and Luxembourg, while its share was 10 % or lower in the Baltic States, Hungary, Poland and Slovakia. The retail sale of household equipment (NACE Classes 52.44 to 52.46) generated more than 30 % of national in-store non-food retailing turnover in the Baltic States, Austria, Portugal and Sweden, but less than 20 % in Poland and Slovakia. The retail sale of books, newspapers and other items in specialised stores (NACE Classes 52.47 and 52.48) contributed at least one third of the turnover generated by in-store non-food retailing in Cyprus, Malta and Poland, while in Germany and Finland it represented less than 20 %. Finally, the relative importance of retail trade of second-hand goods (NACE Group 52.5), which accounted for approximately 0.8 % of in-store non-food retailing turnover in the EU as a whole (again based on an aggregate for the same 22 Member States), was highest in France, the United Kingdom, Hungary, Latvia and Lithuania, where it accounted for upwards of 1.3 % of sectoral turnover.

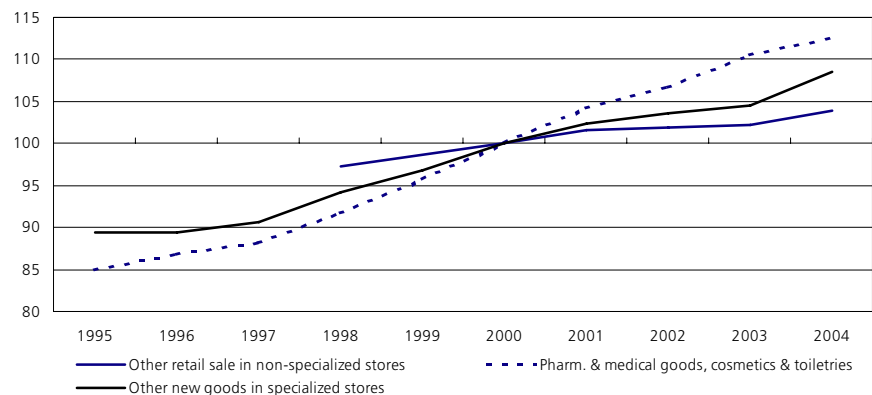
Growth in all subsectors

Short-term statistics show the developments of the volume of sales index for all the components of the EU-25's in-store non-food retailing sector, except for the retailing of second-hand goods (NACE Group 52.5). In all three activities there was uninterrupted growth over the period for which data are available. The retail sale of pharmaceuticals and medical goods, cosmetic and toilet articles often recorded the highest annual growth rates for the EU-25 among the three activities, with average growth of 3.3 % per annum between 1999 and 2004. The corresponding rates for other retail sales of new goods in specialised stores (2.3 % per annum) and for other retail sales in non-specialised stores (1.0 % per annum) were much lower.

PRODUCTIVITY AND PROFITABILITY (19)

Apparent labour productivity was generally somewhat higher for the retail trade of non-food items in-store than it was for the retail trade sector as a whole, although only in Luxembourg did the difference amount to more than EUR 4 000 per person employed. There was very little difference (generally less than

Figure 18.11 Retail trade of non-food items (in-store) (NACE Class 52.12 and Groups 52.3 to 52.5) Deflated turnover index, EU-25 (2000=100) (1)



(1) NACE Group 52.5, not available. Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Table 18.8 Retail trade of non-food items (in-store) (NACE Class 52.12 and Groups 52.3 to 52.5) Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (39.5)	Sweden (29.6)	Latvia (190.2)	Malta (12.6)
2	France (35.7)	France (26.9)	Malta (164.3)	Italy (10.7)
3	Finland (34.0)	Luxembourg (25.6)	Ireland (161.1)	Ireland (10.5)

(1) Belgium and France, 2001; the Czech Republic and Greece, not available. Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EUR 100 per employee) between average personnel costs for the retail trade of non-food items in-store and those for the whole of the retail trade sector.

Given that retail trade activities have an important proportion of their total workforce working part-time, wage adjusted labour productivity may be considered a more appropriate indicator than apparent labour productivity for analysis within this sector, as it is based on the expenditure on personnel rather than a head count, and as such is not directly influenced by the incidence of part-time work. In a majority of Member States, the wage adjusted labour productivity ratio was higher for the retail trade of non-food items in-store than for retail trade as a whole. The average value added per person employed in Latvia was almost twice the average personnel costs (190.2 %), while this ratio also rose to above 160 % for Malta, Ireland and the United Kingdom. In contrast, the wage adjusted labour productivity ratio was below 100 % in Poland, as it was for retail trade as a whole.

At a more detailed level of analysis, Luxembourg had the highest wage adjusted labour productivity ratio for both other retail sale in non-specialised stores and the retail sale of pharmaceutical and medical goods, cosmetic and toilet articles, with value added per person employed more than twice the average personnel costs per employee. This was also the case in Malta for the retail sale of pharmaceutical and medical goods, cosmetic and toilet articles. Latvia recorded the highest wage adjusted labour productivity ratio for both other retail sale of new goods in specialised stores and for the retail sale of second-hand goods in stores. Average personnel costs were higher than value added per person employed among a majority of the Member States for which data are available for the retail sale of second-hand goods in stores. It can be noted that in Poland, value added per person employed was less than average personnel costs per employee in all of the subsectors of in-store non-food retailing.

(19) Belgium and France, 2001; the Czech Republic, Greece and the Netherlands, not available.

18.3: RETAIL SALES NOT IN STORES

These activities cover retail sales via stalls, markets, and door to door, as well as remote retail sales via mail order, mobile sales and sales from vending machines. Enterprises specialising in retail sales via the Internet and via home shopping channels are also included. All of these activities are classified within NACE Group 52.6.

Note that the retailers covered by this subchapter are those which generate the largest part of their activity outside of stores. As such, this subchapter does not include retailers that also use remote-selling, but not as their principal activity.

One of the most important changes to retail sales not in stores has been the development of e-commerce. According to Eurostat information society statistics, 17 % of the EU-25's population ordered or bought goods or services through the Internet in 2004 (during the three months preceding the survey). When restricting the reference population to only those individuals that used the Internet (during the three months preceding the survey), the proportion who had purchased goods and services rose to just over one third (34 %). Note that these figures refer to e-commerce by all sectors of the economy, not just enterprises that are specialised in Internet sales.

STRUCTURAL PROFILE

Retail sales not in-store (NACE Group 52.6) generated EUR 91.7 billion of turnover in the EU-25 in 2002, which represented 4.9 % of the total for the retail trade sector (NACE Division 52). In 2001, more than half of the EU-25's turnover for retail sales not in-store was generated by retail sales via mail order (NACE Class 52.61), while slightly less than 30 % came from other non-store retail sales (NACE Class 52.63), and the remainder from retail sales via stalls and markets (NACE Class 52.62). According to the FEDSA ⁽²⁰⁾, the turnover generated by direct selling among FEDSA members in the EU ⁽²¹⁾ was EUR 8.0 billion in 2004. Direct selling is the marketing of consumer goods and services directly to consumers on a person-to-person basis, generally in their homes or at the homes of others, or in their workplace or other places away from permanent retail locations.

⁽²⁰⁾ FEDSA (Federation of European Direct Selling Associations), more information at: <http://www.fedsa.be>.

⁽²¹⁾ Cyprus and Malta, not available.

Table 18.9

Retail sales not in stores (NACE Group 52.6)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (34.1)	Poland (180.3)	Germany (19.4)	Latvia (352.3)
2	France (18.3)	Germany (175.8)	Italy (17.7)	Poland (291.5)
3	United Kingdom (16.9)	Malta (149.7)	Poland (16.7)	Malta (213.3)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 18.10

Retail sales not in stores (NACE Group 52.6)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Ireland (57.3)	Cyprus (55.7)	Ireland (231.9)	Italy (20.7)
2	Germany (37.4)	Sweden (31.4)	Netherlands (187.9)	Malta (19.8)
3	Finland (36.1)	France (30.0)	Slovakia (167.6)	Spain (15.9)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EU-25 turnover for retail sales not in-store was predominantly generated within Germany, France and the United Kingdom, with a cumulative share of 69.5 % of the total in 2002; German retailers alone accounted for more than one third of EU-25 turnover. The same three Member States accounted for 54.6 % of turnover within the EU-25's retail trade sector.

Retail trade not in-stores generated a higher proportion of retail trade turnover than the EU-25 average in Germany, Malta, Latvia, Poland, France and the Netherlands. In Germany, France (2001) and the Netherlands, the highest share of turnover was generated by mail order houses, while in Latvia and Poland it was stalls and markets.

There were 866 300 persons employed in the EU-25's retail sales not in-store sector in 2002, around 5.6 % of retail trade employment. Among the Member States, the largest employers were Germany (19.4 % of the EU-25 total), Italy (17.7 %) and Poland (16.7 %).

PRODUCTIVITY AND PROFITABILITY

Value added per person employed only just exceeded average personnel costs per employee in the EU-25 in 2002 for retail sales not in-store, as the wage adjusted labour productivity ratio stood at 103.0 %, compared with 132.5% for retail trade as a whole. In only 11 of the 24 Member States for which data are available was the wage adjusted labour productivity ratio above 100 % for retail sales not in-store ⁽²²⁾. However, the gross operating surplus was equivalent to 10.8 % of turnover in the EU-25 in 2002, which was 3.0 percentage points above the retail trade average.

⁽²²⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

18.4: REPAIR OF PERSONAL AND HOUSEHOLD GOODS

The repair of personal and household goods is quite different from the other activities covered in this chapter as it does not involve the buying and reselling of goods, but covers the provision of repair services. This activity (NACE Group 52.7) covers specialist repairers only, and excludes enterprises that carry out repair as a secondary activity in combination with another distribution or manufacturing activity. The repair of personal and household goods includes the repair of footwear and leather articles (NACE Class 52.71), electrical household goods (NACE Class 52.72), watches, clocks and jewellery (NACE Class 52.73) and other repair, including bicycles, as well as the repair and alteration of clothing (NACE Class 52.74).

Production costs and the retail price of some products fall over time, as can be seen for many electrical goods and clothing. This, combined with the increasing complexity of some electronic goods, may reduce the market for repairs, as consumers replace rather than repair goods. In the same manner, rapidly changing fashions also provide incentives to consumers to buy new items instead of making use of repair services. Nonetheless, particularly during an economic downturn, consumers may postpone purchases of new goods and use repair services to extend the life of existing ones: this is particularly the case with durable goods.

STRUCTURAL PROFILE

The EU-25's repair of personal and household goods sector (NACE Group 52.7) employed 241 000 persons in 2002. Italy contributed the largest proportion with 16.4 % of the EU-25 total (37 400 persons employed), followed by the United Kingdom (15.4 %) and Spain (12.2 %). The repair of personal and household goods sector provided 1.6 % of the EU-25's retail trade (NACE Division 52) workforce in 2002, although this proportion was as high as 4.0 % in Hungary, 3.1 % in Cyprus and 3.0 % in Malta.

In 2001, the repair of personal and household goods in the EU-25 generated EUR 4.1 billion of value added, equivalent to 1.2 % of the retail trade total. The United Kingdom and France contributed the highest proportions, with 21.1 % and 18.4 % respectively, while Germany was the third largest contributor (14.9 %).

Table 18.11
Repair of personal and household goods (NACE Group 52.7)
Employment profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 employment (%) (1)	Non-financial services employment specialisation (EU-25=100) (2)
1	Italy (16.4)	Hungary (279.5)
2	United Kingdom (15.4)	Malta (170.7)
3	Spain (12.2)	Poland (150.4)

(1) Greece, not available.

(2) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 18.12
Repair of personal and household goods (NACE Group 52.7)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Denmark (38.4)	Cyprus (37.7)	Germany (174.6)	Malta (41.0)
2	Germany (33.0)	Sweden (33.3)	United Kingdom (142.1)	Germany (35.8)
3	Finland (31.0)	Denmark (32.9)	Netherlands (134.2)	Netherlands (25.7)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

An analysis at the NACE class level shows that the repair of electrical household goods (NACE Class 52.72) often generated the largest proportion of value added and employment, generally accounting for at least half of sectoral value added in most of the Member States. However, in Denmark, Italy and the United Kingdom, the largest proportion of value added and/or employment was generated by miscellaneous repair activities (NACE Class 52.74).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for the EU-25's repair of personal and household goods sector was EUR 18 400 per person employed in 2001, compared with an average of EUR 22 900 for the retail trade sector. Average personnel costs were EUR 18 600 per employee for the repair of personal and household goods sector in 2001, some EUR 1 300 higher than the average

for retail trade. With lower than average apparent labour productivity and higher than average personnel costs, the resulting wage adjusted labour productivity ratio for the repair of personal and household goods sector stood at 99.1 % for the EU-25 in 2001, which was 33.5 percentage points below the retail trade average. Nevertheless, several Member States ⁽²³⁾ recorded a wage adjusted labour productivity ratio in excess of 100 %, notably Germany, the United Kingdom and the Netherlands, where data for 2002 showed that apparent labour productivity covered average personnel costs by at least 1.3 times.

The gross operating rate, which measures the gross operating surplus in relation to turnover, was 20.0 % in the EU-25's repair of personal and household goods sector in 2001, fully 12.5 percentage points higher than the average for retail trade.

⁽²³⁾ Greece, not available.

Table 18.13

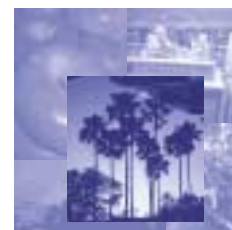
Retail trade; repair of personal and household goods (NACE Division 52)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	1 886.9	56.4	22.3	30.4	317.0	2.1	161.1	334.7	20.7	228.1	3.4	2.6	3.3	3.3	17.0	1.2	
Production (EUR billion) (2)	633.0	15.1	4.2	11.7	113.2	0.5	47.5	102.4	6.4	97.8	0.9	0.6	0.8	1.0	4.3	0.3	
Value added at factor cost (EUR billion) (3)	351.6	7.8	1.6	5.6	65.5	0.2	31.7	55.3	4.2	37.7	0.6	0.3	0.4	0.6	1.6	0.2	
Gross operating surplus (EUR billion) (3)	147.0	3.2	0.3	1.6	20.7	0.1	14.5	18.3	1.8	20.7	0.2	0.1	0.1	0.2	0.4	0.1	
Purchases of goods and services (EUR billion) (2)	1 443.7	43.8	16.3	25.3	239.9	1.9	132.2	264.1	16.6	194.2	2.8	2.3	2.9	2.7	15.6	1.0	
Gross investment in tangible goods (EUR billion) (3)	:	1.8	0.6	0.6	4.3	0.1	5.3	7.7	0.6	7.5	0.1	0.1	0.1	:	0.6	0.0	
Number of persons employed (thousands)	15 488	276	401	204	2 455	43	1 581	1 456	155	1 726	29	91	100	18	366	15	
Personnel costs (EUR billion) (3)	204.7	4.6	1.2	4.0	44.8	0.2	17.3	37.0	2.4	17.0	0.4	0.2	0.2	0.4	1.2	0.1	
App. labour productivity (EUR thous./pers. emp.) (3)	22.7	27.3	3.8	27.6	26.7	5.6	20.1	33.8	27.4	21.8	20.2	3.6	3.9	35.2	4.4	14.3	
Average personnel costs (EUR thous./employee) (3)	17.1	22.8	4.8	21.6	20.6	4.0	16.2	25.3	17.8	22.2	16.9	2.1	2.7	24.1	5.0	8.7	
Wage adjusted labour productivity (%) (3)	132.5	119.9	79.3	128.1	129.8	141.2	123.8	133.8	154.1	98.2	119.6	175.6	144.2	145.7	87.7	163.5	
Gross operating rate (%) (3)	7.8	6.3	1.7	5.2	6.5	3.5	9.0	5.8	8.8	9.1	6.2	5.6	4.5	7.5	2.2	12.6	
Investment per person employed (EUR thousand) (3)	:	6.2	1.4	3.1	1.8	1.9	3.4	4.7	3.9	4.3	3.3	1.4	0.9	:	1.7	1.2	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	81.6	39.3	49.4	29.1	4.9	3.8	25.7	45.2	378.8	2.5	8.5	:	:	:	33.0	62.0	
Production (EUR billion)	28.5	13.7	37.0	8.0	1.8	1.0	7.5	14.2	135.5	0.6	2.2	:	:	:	10.9	21.9	
Value added at factor cost (EUR billion)	17.3	7.9	6.1	4.7	0.7	0.4	4.4	8.0	78.5	0.2	0.9	:	:	:	6.1	14.5	
Gross operating surplus (EUR billion)	7.3	2.4	1.0	1.8	0.2	0.1	1.5	1.9	31.1	0.1	0.4	:	:	:	1.7	3.2	
Purchases of goods and services (EUR billion)	65.2	31.6	42.5	25.5	4.2	3.4	21.7	37.8	295.4	2.4	8.0	:	:	:	27.2	46.0	
Gross investment in tangible goods (EUR billion)	2.0	0.9	1.2	1.0	0.3	0.2	0.5	0.9	15.0	0.1	0.4	:	:	:	0.7	:	
Number of persons employed (thousands)	746	298	1 207	366	54	66	126	251	3 077	212	393	:	:	:	184	281	
Personnel costs (EUR billion)	10.0	5.5	5.1	2.9	0.5	0.3	2.9	6.1	47.4	0.1	0.5	:	:	:	4.4	11.3	
App. labour productivity (EUR thous./pers. emp.)	23.1	26.5	5.0	12.8	13.3	5.7	35.0	31.9	25.5	1.2	2.2	:	:	:	33.0	51.5	
Average personnel costs (EUR thous./employee)	15.2	21.5	9.1	10.9	11.1	4.6	24.9	28.4	16.6	1.2	1.4	:	:	:	25.5	:	
Wage adjusted labour productivity (%) (3)	152.6	123.1	55.1	117.5	120.1	123.7	140.3	112.7	154.0	100.8	162.5	:	:	:	129.8	:	
Gross operating rate (%)	8.9	6.0	1.9	6.3	3.5	1.9	5.9	4.2	8.2	4.8	4.8	:	:	:	5.2	5.1	
Investment per person employed (EUR thousand)	2.7	3.1	1.0	2.8	5.3	3.5	3.7	3.5	4.9	0.4	1.0	:	:	:	3.7	:	

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium, the Czech Republic and France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Tourism



Europe is the most visited destination globally and receives slightly less than 60 % of worldwide international tourists, according to a report issued in 2003 by the European Commission ⁽¹⁾. This high share may partially be due to the close proximity of the many relatively small European countries, which stimulates intra-European travel. Hence, three quarters of persons leaving an EU-15 Member State travelled within another EU-15 Member State.

Internet represents a major change to the tourism sector, as a way to reduce distribution costs (for example, booking services and e-marketing). Another challenge is the change in demographic characteristics of the European population. Indeed, the average age of the population is increasing and some operators have made specific efforts to develop markets so as to meet the demands of older people, who not only represent an important part of total demand, but also generally have higher disposable incomes than in the past.

⁽¹⁾ European Commission, 'Structure, performance and competitiveness of European tourism and its enterprises', 2003, ISBN 92-894-4464-9.

Concerning recent developments, the two years following the 11 September 2001 terrorism attacks were marked by disaffection among customers, as many tourists reconciled their fears of war and the threat of SARS. For tourists coming from outside of Europe, mainly Americans and Japanese (who were among the world's biggest holiday-spenders in 2003 according to the World Tourism Organisation), the exchange rate of the dollar and the yen against the euro plays an important role when deciding their travel destinations. Moreover, even though a recovery of the tourism sector was observed recently, tourists changed their behaviour with respect to their way of consuming travel services, with consequences for their purchases. Indeed, tourists can access more easily a new range of products, taking advantage of discounts available on flights, hotel rooms and package tours offered on-line, and their expenditure is likely to remain at a lower level than before the terrorist attacks in New York and Washington in September 2001 according to a report issued in March 2005, based on the Hoteliers Marketplace survey of the European Tour Operators Association's (ETOA).

Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year, for leisure, business or other purposes. On the supply side, tourism relies on enterprises from a variety of sectors, which can be summarised as the provision of accommodation, food and drink, transport facilities and services, and entertainment. This chapter covers two activities that make up a significant part of the tourism supply: hotels and restaurants (NACE Division 55) and travel agencies (NACE Group 63.3). It should be noted, however, that these activities may also provide services for purposes other than tourism, while there are other activities, notably transport services (see Chapter 20), that also contribute to tourism that are covered elsewhere in this publication.

NACE

- 55: hotels and restaurants;
- 55.1: hotels;
- 55.2: camping sites and other provision of short-stay accommodation;
- 55.3: restaurants;
- 55.4: bars;
- 55.5: canteens and catering;
- 63.3: activities of travel agencies and tour operators; tourist assistance activities n.e.c.

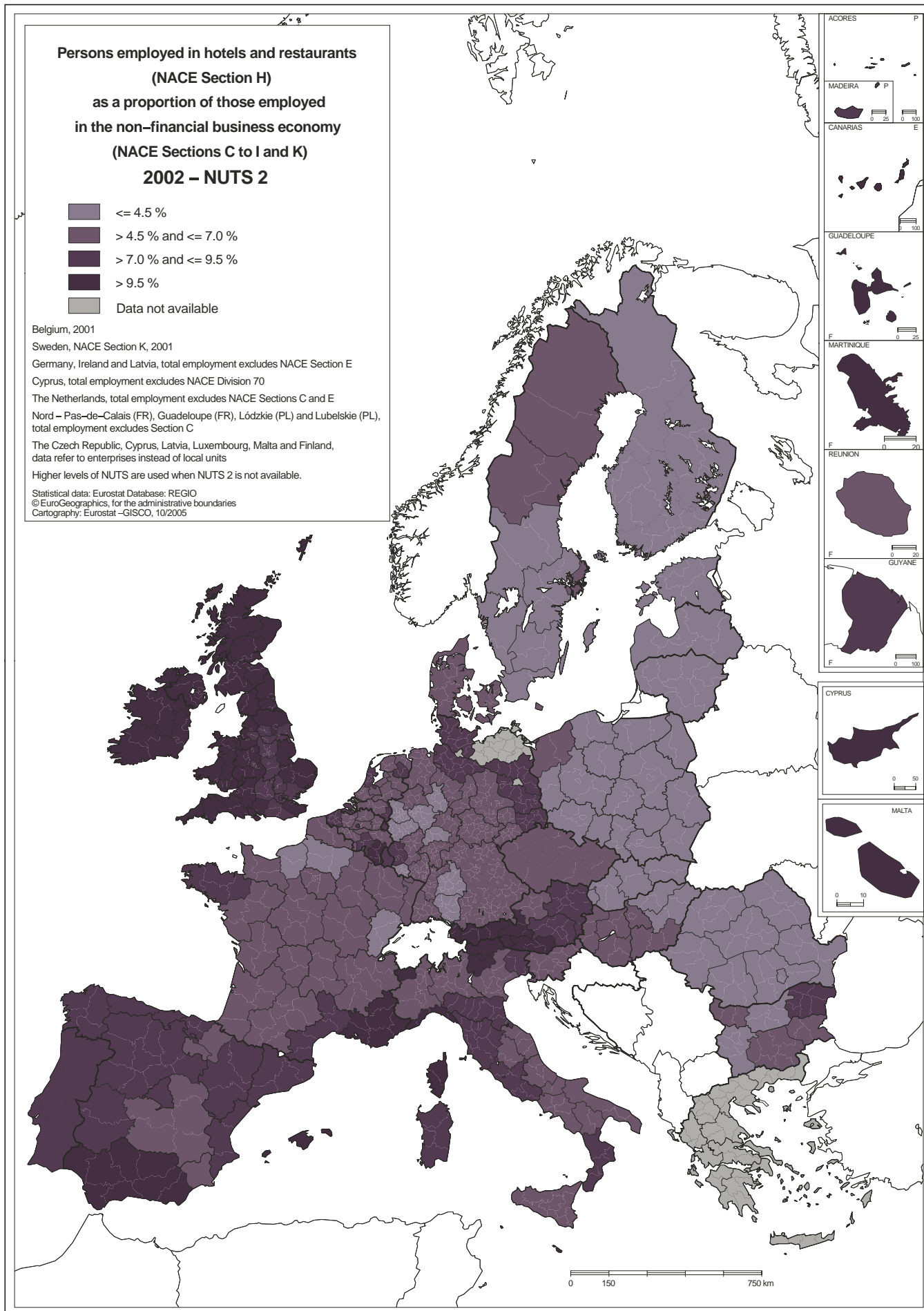


Table 19.1

Top 10 tourism spenders, 2003

	International tourism expenditure (EUR billion)	Annual change, 2002-2003 (%)	World market share (%)
Germany	57.2	23.3	12.4
United States	50.0	-2.5	10.8
United Kingdom	42.9	16.1	9.3
Japan	25.6	8.6	5.5
France	20.9	19.6	4.5
Italy	18.1	21.3	3.9
China	13.4	-1.4	2.9
Netherlands	12.9	11.2	2.8
Canada	11.8	13.5	2.5
Russian Federation	11.4	14.1	2.5

Source: World Tourism Organization (WTO) ©

Table 19.2

Top 10 tourism destinations, 2003

	International tourist arrivals (million)	Annual change, 2002-2003 (%)	World market share (%)
France	75.0	-2.6	10.9
Spain	51.8	-1.0	7.5
United States	41.2	-5.3	6.0
Italy	39.6	-0.5	5.7
China	33.0	-10.4	4.8
United Kingdom	24.7	2.2	3.6
Austria	19.1	2.5	2.8
Mexico	18.7	-5.1	2.7
Germany	18.4	2.4	2.7
Canada	17.5	-12.9	2.5

Source: World Tourism Organization (WTO) ©

Table 19.3

Top 10 tourism earners, 2003

	International tourist receipts (EUR billion)	Annual change, 2002-2003 (%)	World market share (%)
United States	57.0	-3.3	12.3
Spain	37.0	23.6	8.0
France	32.7	13.1	7.1
Italy	27.6	16.2	6.0
Germany	20.3	21.2	4.4
United Kingdom	20.2	10.7	4.3
China	15.4	-14.6	3.3
Austria	12.5	25.2	2.7
Turkey	11.7	10.9	2.5
Greece	9.5	10.0	2.0

Source: World Tourism Organization (WTO) ©

In terms of global destinations, France, Spain and the United States were the countries that attracted the largest number of international tourists in 2003, according to the World Tourism Organisation. Indeed, there were 75.0 million arrivals in France, the most visited country worldwide, followed by 51.8 million in Spain and 41.2 million in the United States. However, these three figures were all lower than for the year 2002, by at least 1.5 million arrivals each (see Table 19.2). Looking at the countries in terms of

receipts in 2003, the United States ranked first with EUR 57.0 billion of receipts from international tourists (down 3.3 % compared with 2002), Spain was second with EUR 37.0 billion (up 23.6 % between 2002 and 2003) and France third with EUR 32.7 billion (up 13.1 % compared with 2003).

STRUCTURAL PROFILE

The tourism sector, defined for the purpose of this chapter as hotels and restaurants, and travel agencies (NACE Division 55 and Group 63.3), accounted for EUR 181.2 billion of value added in the EU-25 in 2002, which represented 7.0 % of the total for the non-financial services economy (NACE Sections G to I and K). As such, it was the second smallest of the eight services sectors covered in this publication by Chapters 16 to 23. However, in terms of employment, the tourism sector emerged as one of the largest employers in non-financial services, accounting for 12.4 %, as 8.5 million persons worked for the EU-25's tourism sector. Restaurants, bars and catering (NACE Groups 55.3 to 55.5) constituted the largest part of the EU-25's tourism sector, generating 65.0 % of sectoral value added in 2002 and providing 75.3 % of sectoral employment.

The United Kingdom was by far the largest Member State in the tourism sector as it generated almost a quarter (EUR 44.3 billion) of value added and employed 2.0 million persons. In value added terms France was the second largest Member State in this sector, with EUR 25.7 billion (14.2 % of the total) of value added and 840 500 persons employed. Germany totalled EUR 24.3 billion of value added, while its tourism sector employed 1.1 million persons.

In 2002, Malta was the most specialised Member State in terms of the weight of its tourism sector in non-financial services value added, which was more than double the EU-25 average. Spain, Austria, Italy, Portugal, Slovenia, the United Kingdom and Luxembourg were also relatively more specialised in the tourism sector compared with the EU-25 average⁽²⁾. A specialisation ratio compared to a narrower range of activities (NACE Sections G, H and I) shows that value added generated by the tourism sector in Cyprus contributed 2.6 times the EU-25 average to this selected set of service activities.

The turnover index for hotels and restaurants (NACE Division 55) can be observed for the EU-25 over the time period 1998 to 2004 (see Figure 19.3 overleaf). It grew by 20.4 % during this period, corresponding to an average annual growth rate of 3.1 %. The years 1999, 2000 and 2001 were characterised by a faster pace of annual growth, compared with more modest increases registered during the following years. The index of employment showed that between 1996 and 2004 there was overall growth of 18.0 % (equivalent to a 2.1 % annual average). Recently, from 2002 to 2004, the growth in employment in hotels and restaurants slowed.

⁽²⁾ Belgium, the Czech Republic and France, 2001; Greece, Ireland, Cyprus and Poland, not available.

Table 19.4

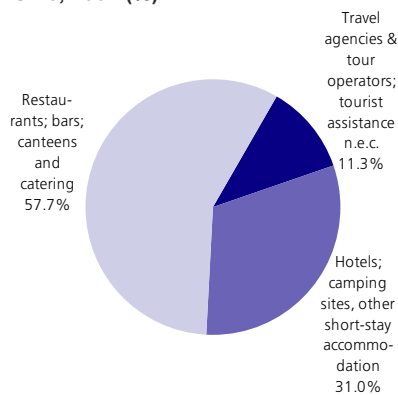
Hotels and restaurants; activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Tourism	181 216	7.0	8 503	12.4
Travel agencies & tour operators; tourist assistance n.e.c.	20 509	0.8	499	0.7
Hotels; camping sites, other short-stay accommodation	56 185	2.2	1 976	2.9
Restaurants; bars; canteens and catering	104 522	4.0	6 028	8.8

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 19.1

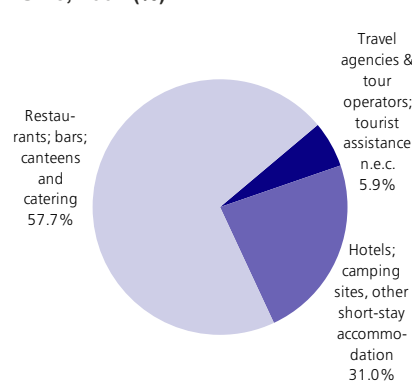
Hotels and restaurants; activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 19.2

Hotels and restaurants; activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Breakdown of sectoral employment, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A study for the year 2002 for 10 of the Member States ⁽²⁾ reveals that the pattern observed for the EU-25 as a whole was in general valid among the individual Member States, namely the marked importance of micro enterprises; two exceptions were noted as medium-sized enterprises in Malta and large enterprises in the United Kingdom accounted for the largest share of the tourism sector's value added.

Analysing the activities that compose the tourism sector, the restaurants, bars and catering subsector generally showed a higher contribution from micro enterprises to value added across Member States in 2002, compared with the accommodation services and travel agencies subsectors.

⁽³⁾ Germany, Spain, France, Italy, Malta, the Netherlands, Slovenia, Finland, Sweden and the United Kingdom.

Table 19.5

Hotels and restaurants; activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added		Non-financial services employment	
	Share of EU-25 value added (%) (1)	Specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Specialisation (EU-25=100) (4)
1	United Kingdom (24.5)	Malta (250.8)	United Kingdom (23.1)	Malta (216.7)
2	France (14.2)	Spain (141.7)	Germany (13.1)	Austria (133.6)
3	Germany (13.4)	Austria (131.3)	Spain (12.8)	Portugal (128.6)

(1) Belgium, the Czech Republic and Ireland, 2001; Greece and Poland, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus and Poland, not available.

(3) France and Ireland, 2001; Greece and Poland, not available.

(4) Greece, France, Ireland, Cyprus and Poland, not available.

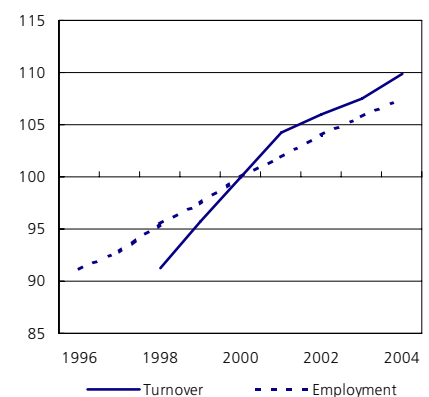
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The EU-25's tourism sector is characterised by a high importance of micro enterprises (1 to 9 persons employed) as these generated 36.3 % of the sector's value added in 2001. Indeed, micro enterprises contributed more to the total wealth created by the tourism sector than they did within distributive trades, transport or business services.

For comparison, micro enterprises accounted for about a quarter of the total value added created in the non-financial services sector as a whole.

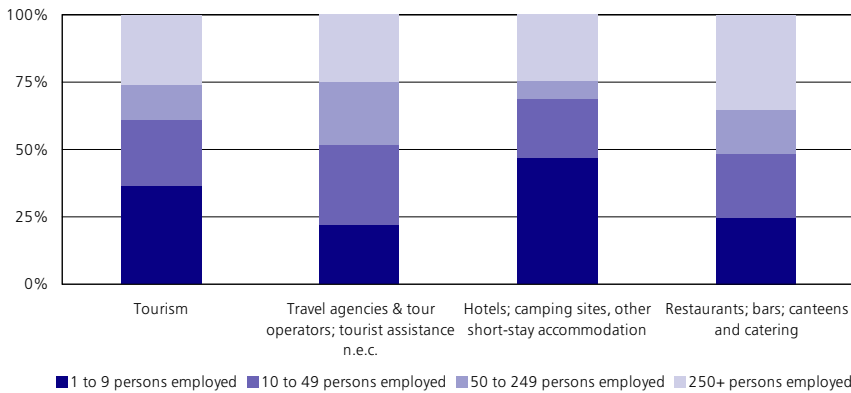
Figure 19.3

Hotels and restaurants (NACE Division 55)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 19.4
Hotels and restaurants; activities of travel agencies and tour operators;
tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Table 19.6
Hotels and restaurants; activities of travel agencies and tour operators;
tourist assistance activities n.e.c. (NACE Division 55 and Group 63.3)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (35.4)	Finland (24.3)	Malta (212.1)	Malta (26.8)
2	Finland (30.0)	Luxembourg (23.4)	Latvia (186.2)	Cyprus (25.6)
3	Cyprus (25.9)	Sweden (23.2)	Slovakia (178.1)	Luxembourg (19.0)

(1) Belgium, the Czech Republic, France and Ireland, 2001; Greece and Poland, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EMPLOYMENT CHARACTERISTICS

The hotels and restaurants workforce was mainly female, as in 2004 women represented 54.3 % of those employed in the EU-25. This proportion was about 10 percentage points higher than the services sector (NACE Sections G to K) average. Moreover, this pattern was widespread among the Member States, as the proportion of female employment was higher than the national average for the services sector in each country: in Lithuania, the difference reached more than 30 percentage points, while in Latvia, Finland and Poland the difference was more than 20 percentage points.

Analysing the composition of the workforce in terms of full-time and part-time employment, 27.4 % of the EU-25's hotels and restaurants workforce in 2004 worked on a part-time basis, compared with 19.7 % for the services sector as a whole. This relatively high proportion reflects the need for flexibility in employment, including adaptability to atypical working hours. In all of the Member States, the proportion of the persons in employment working part-time in this sector was above the national average for the services sector, with the exception of Cyprus where it was the same (4).

The hotels and restaurants workforce tended to be younger than in the services sector as a whole because of the flexibility and irregularity of working hours and the seasonal nature of work in this sector that often peaks during periods when higher education establishments are not open. Indeed, in 2004 those aged 15 to 24 accounted for 22.4 % of the total workforce in the EU-25, while the equivalent share was almost 10 percentage points lower for the services sector as a whole.

(4) Latvia, 2002; Estonia and Lithuania, not available.

In 2002, according to structural business statistics, the share of employees in persons employed was 78.8 % for hotels and restaurants in the EU-25, which was slightly less than for the non-financial services economy as a whole (2.8 percentage points difference) reflecting the traditional importance of working proprietors and family workers in micro enterprises. In some Member States, this difference was more marked (5). For example, in Belgium, Luxembourg, Austria and Poland the share was between 9.9 and 7.9 percentage points lower in hotels and restaurants than the national average for non-financial services. In contrast, a few Member States posted a higher share of employees in persons employed in the non-financial services sector, where Malta stood out from the rest of the countries with more than 15 percentage points difference.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's tourism sector was EUR 21 300 in 2002, EUR 16 500 less than the average for non-financial services. This is mainly due to the high use of part-time and seasonal employment and a relatively low or unskilled workforce, as well as non paid workers. Equally these characteristics of the tourism sector have an impact on average personnel costs per employee which were EUR 15 700 in the tourism sector, almost half the average for non-financial services and the lowest level among the services sectors covered by this publication.

When adjusted by the ratio of employees to persons employed, the wage adjusted labour productivity ratio indicated that value added in the EU-25's tourism sector covered personnel costs 1.4 times, slightly less than the non-financial services average (1.5 times).

In terms of profitability, the EU-25's tourism sector recorded in 2002 a gross operating surplus (value added less personnel costs) equivalent to 14.5 % of turnover, which was 3.3 percentage points above the average for non-financial services. Among the Member States (6), the rate was generally higher than the national average for non-financial services. Luxembourg stood out with a gross operating rate for its tourism sector that was twice its average for non-financial services.

(5) Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

(6) Belgium, the Czech Republic, France and Ireland, 2001; Greece, Cyprus and Poland, not available.

19.1: TRAVEL AGENCIES

Travel agencies are enterprises that are engaged in arranging transport, accommodation and catering on behalf of travellers. The activity is covered by NACE Group 63.3.

Travel agents act as retailers in the chain, selling travel services or packaged trips to the customer; they generally carry no stock and act as intermediaries between the traveller and supplier. Tourist guides and tourist information services, the other part of the activity covered by this subchapter, play a supporting role, offering information and services usually at the tourism destination. Traditionally, tour operators acted as wholesalers to travel agents, while more recently they have moved towards selling directly to customers, cutting the intermediary chain and avoiding commissions to travel agents, mainly due to technologies that enable the use of different channels of distribution and marketing such as e-commerce.

According to Eurostat data from the tourism domain, among the Member States for which data are available, the highest use of travel agents and tour operators in 2003 was made in Denmark and Germany, accounting for 37.9 % of trips in both Member States. Travel agencies were least frequently used in France (10.5 %) and Greece (5.8 %, 2002 data) - see Table 19.7.

In 2004, among the ten major European travel operators/agents in terms of turnover ⁽⁷⁾, there were four German operators/agents (TUI, Thomas Cook, Rewe Touristic and Alltours Group), two British (My Travel and First Choice) and Swiss operators/agents (Kuoni and Hotel plan), while other operators/agents ranked among the top ten included Grupo Iberostar (ES) and Club Med (FR) - see Table 19.8.

⁽⁷⁾ Survey conducted in Denmark, Germany, Spain, France, Italy, the Netherlands, Austria, Sweden, the United Kingdom, Switzerland and Norway.

Table 19.9
Activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Group 63.3)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services		Non-financial services	
	Share of EU-25 value added (%) (1)	value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	employment specialisation (EU-25=100) (4)
1	United Kingdom (34.8)	Malta (320.2)	United Kingdom (26.0)	Malta (333.2)
2	Germany (24.8)	United Kingdom (155.1)	Germany (16.7)	United Kingdom (140.6)
3	France (8.5)	Germany (127.9)	Spain (9.0)	Slovenia (135.4)

(1) Belgium, the Czech Republic and Ireland, 2001; Greece and Poland, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus and Poland, not available.

(3) France and Ireland, 2001; Greece and Poland, not available.

(4) France and Ireland, 2001; Greece, Cyprus and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 19.7
Breakdown of holiday trips by organisational mode, 2003 (%) (1)

	Direct reservation	Travel agent/tour operator	Other
BE	63.6	31.1	5.3
CZ	70.7	22.4	6.9
DK	62.1	37.9	0.0
DE	62.1	37.9	0.0
EE	36.2	18.7	45.0
EL (2)	94.2	5.8	0.0
ES	18.7	29.6	51.6
FR	18.0	10.5	71.5
IE	59.2	34.7	6.1
IT	35.2	22.4	42.5
CY	:	:	:
LV	:	:	:
LT	:	:	:
LU	53.9	29.2	16.9
HU	:	:	:
MT	:	:	:
NL	32.2	32.5	35.3
AT	70.7	29.3	0.0
PL	:	:	:
PT	54.5	11.8	33.7
SI	32.5	19.1	48.3
SK	:	:	:
FI	18.0	20.5	61.5
SE	:	:	:
UK	29.6	27.6	42.8

(1) Four nights or more.

(2) 2002.

Source: Eurostat, Industry, trade and services/Tourism/Tourism/Tourism demand : domestic and outbound tourism (excluding day-trips)/Number of tourism trips/Number of trips - by type of organisation of the trip - annual data

Table 19.8
Top European travel operators/agents, 2004 (1)

		Turnover (EUR billion)
TUI	DE	13.2
Thomas Cook	DE	7.6
My Travel	UK	5.0
Rewe Touristic	DE	4.7
First Choice	UK	3.6
Grupo Iberostar	ES	2.5
Kuoni	CH	2.3
Club Med	FR	1.7
Alltours Group	DE	1.3
Hotel Plan	CH	1.2

(1) Includes Germany, Denmark, Spain, France, Italy, the Netherlands, Austria, Sweden, the United Kingdom, Switzerland and Norway.

Source: Annual Report 2004 Kuoni Travel Holding Ltd

STRUCTURAL PROFILE

Travel agencies (NACE Group 63.3) generated EUR 20.5 billion of value added in the EU-25 in 2002, accounting for 11.3 % of the tourism sector (NACE Division 55 and Group 63.3). They employed 499 100 persons and their contribution to total employment in the tourism sector (5.9 %) was almost half their value added share. The United Kingdom and Germany were by far the largest contributors to the wealth and employment generated by travel agencies in the EU-25 as together they accounted for 59.6 % of the value added and 42.7 % of the number of persons employed ⁽⁸⁾.

Travel agencies in the EU-25 accounted for 0.8 % of the total value added of the non-financial services (NACE Sections G to I and K) economy in 2002. Malta, the United Kingdom, Germany and Slovenia were relatively more specialised in the activity of travel agencies than the EU-25 average ⁽⁹⁾. In terms of employment, the same set of countries was relatively more specialised than the EU-25 average, as well as Austria, Sweden, Estonia, the Czech Republic, Finland and the Netherlands ⁽¹⁰⁾.

⁽⁸⁾ Belgium, the Czech Republic and Ireland, 2001; Greece and Poland, not available.

⁽⁹⁾ Belgium, the Czech Republic and France, 2000; Greece and Cyprus, not available.

⁽¹⁰⁾ Greece, France and Cyprus, not available.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for travel agencies in the EU-25 was EUR 41 100 per person employed (compared to EUR 21 300 for the tourism sector as a whole). Average personnel costs were EUR 27 300, some EUR 11 600 higher than the average for the tourism sector. Among the Member States, Germany had the highest level of apparent labour productivity (EUR 60 900 per person employed)⁽¹⁾, while Denmark (EUR 34 700) and France (EUR 34 500) had the highest average personnel costs per employee. Estonia reported both the lowest level of apparent labour productivity (EUR 9 900) and average personnel cost per employee (EUR 7 200). Wage adjusted labour productivity ratios show that personnel costs (once adjusted by the ratio of persons employed to employees) in the EU-25's travel agencies were covered 150.7 % by value added. Among the Member States, this

⁽¹⁾ Belgium, the Czech Republic, France and Ireland, 2001; Greece and Poland, not available.

percentage reached 448.8 % for Slovakia (in part due to relatively low personnel costs per employee), while in Sweden and in the Czech Republic value added did not cover adjusted personnel costs (reflected by wage adjusted labour productivity below 100 %).

The gross operating rate of the EU-25's travel agencies in 2002 was 5.9 %. Cyprus had the highest profitability, using this measure, as the gross operating surplus represented 30.3 % of turnover. Only Sweden recorded a negative gross operating rate (-0.4 %).

Table 19.10 Activities of travel agencies and tour operators; tourist assistance activities n.e.c. (NACE Group 63.3)
Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Germany (60.9)	Denmark (34.7)	Slovakia (448.8)	Cyprus (30.3)
2	Luxembourg (58.2)	Sweden (32.2)	Latvia (357.2)	Malta (16.8)
3	United Kingdom (55.0)	United Kingdom (30.5)	Malta (238.1)	Slovakia (13.2)

(1) Belgium, the Czech Republic, France and Ireland, 2001; Greece and Poland, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

19.2: ACCOMMODATION SERVICES

Accommodation services are covered by two NACE groups: Group 55.1 includes the provision of short-stay lodging in hotels, motels and inns, excluding the rental of long-stay accommodation and timeshare operations; Group 55.2 covers camping sites and other short-stay accommodation, including self-catering holiday chalets or cottages.

There are four main types of accommodation: hotels, camping sites, holiday dwellings and other collective establishments. As for travel suppliers, the Internet enables customers to bypass intermediaries and book directly on-line their accommodation. Nonetheless, according to the European Commission's Directorate-General for Enterprise, corporate business travellers in Europe continue to mainly use travel agents.

According to Hotels magazine, the largest EU-25 hotel chains in 2003, in terms of number of rooms, were British and French chains, as InterContinental Hotels Group (UK) and Accor (FR) each had more than 3 500 hotels spread over the world, with more than 100 rooms per hotel on average (see Table 19.11).

The Member State that had the largest number of hotels and similar establishments in 2003 was the United Kingdom, with 44 100 establishments in 2003, some 21.8 % of the total number in the EU-25.

Table 19.11 Main hotel chains, ranked by number of rooms, EU-25, 2004

		Number of rooms (units)	Number of sites (units)	World ranking
InterContinental Hotels Group	UK	534 202	3 540	1
Accor	FR	463 427	3 973	4
Hilton Group plc	UK	102 636	403	11
TUI AG/TUI Hotels & Resorts	DE	81 398	285	12
Sol Meliá SA	ES	80 834	328	13
Louvre Hotels (Société du Louvre) (1)	FR	66 834	887	16
Golden Tulip Hospitality/THL	NL	52 148	534	18
Rezidor SAS Hospitality	BE	39 353	190	21
Whitbread Hotel Company	UK	36 803	501	23
Club Méditerranée	FR	36 000	100	24

(1) Estimates.
Source: Hotels Magazine, July 2005

STRUCTURAL PROFILE

Accommodation services (NACE Groups 55.1 and 55.2) generated EUR 56.2 billion of value added in the EU-25 in 2002 and had a workforce of almost 2 million persons. This subsector contributed slightly less than one third (31.1 %) of total wealth creation within the EU-25's tourism sector (NACE Division 55 and Group 63.3), the second largest of the three activities covered in this chapter in terms of value added, while accounting for 23.2 % of the tourism workforce.

Table 19.12

**Hotels; camping sites, other provision of short-stay accommodation
(NACE Groups 55.1 and 55.2)**

Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added		Non-financial services employment	
	Share of EU-25 value added (%) (1)	value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	specialisation (EU-25=100) (4)
1	United Kingdom (18.3)	Malta (517.7)	United Kingdom (18.0)	Malta (468.6)
2	France (14.6)	Austria (214.1)	Germany (16.0)	Ireland (250.7)
3	Italy (13.8)	Spain (168.2)	Italy (12.6)	Austria (244.7)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Among the Member States⁽¹²⁾, the United Kingdom created the highest value added for accommodation services in 2002 (EUR 10.3 billion, 18.3 % of the EU-25 total), while France (14.6 %), Italy (13.8 %), Spain (13.6 %) and Germany (13.3 %) also contributed a significant proportion. For all five of these Member States, the share of EU-25 employment was lower than the equivalent proportion of EU-25 value added, except for Germany where the number of persons employed in the accommodation services sector represented 16.0 % of the EU-25 total (2.7 percentage points above the German share of EU-25 value added)⁽¹³⁾.

⁽¹²⁾ Belgium and the Czech Republic, 2001; Greece, not available.

⁽¹³⁾ France, 2001.

Accommodation services in the EU-25 accounted for 2.2 % of the non-financial services (NACE Sections G to I and K) value added in 2002. Relative to this proportion, Malta stood out as being five times more specialised, as its accommodation services sector accounted for 11.2 % of Maltese non-financial services value added⁽¹⁴⁾, followed by Austria which was twice as specialised as the EU-25 average. Other Member States relatively specialised in accommodation services were Spain, Ireland, Italy, Slovenia and Portugal.

Highlighting the use of e-commerce for accommodation services, 6.7 % of the turnover generated by all enterprises in the business economy (defined here as NACE Sections D, G, I and K and Groups 55.1 and 55.2) came from e-commerce, while this share was 3.6 % for accommodation services - see Table 19.13.

⁽¹⁴⁾ Belgium, the Czech Republic, Greece, France and Cyprus, not available.

Table 19.13

**Turnover from e-commerce during 2004
(% share of total turnover)**

EU-25	All enterprises	Hotels and accommodation
		6.7
BE	5.0	1.6
CZ	5.2	7.5
DK	11.4	6.6
DE	8.3	7.3
EE	2.6	2.5
EL	1.6	2.8
ES	2.1	1.2
FR	:	:
IE	:	:
IT	3.3	6.7
CY	:	:
LV	0.4	0.6
LT	3.7	11.5
LU	:	:
HU	:	:
MT	:	:
NL	:	:
AT	5.8	7.9
PL	2.3	3.1
PT	3.5	2.2
SI	10.1	10.1
SK	3.3	7.5
FI	:	:
SE	:	:
UK	11.8	2.2
BG	3.2	4.0
IS	:	:
NO	6.2	3.8

(1) Aggregate composed of NACE Sections D, G, I and K and NACE Groups 55.1 and 55.2.

Source: Eurostat, Industry, trade and services/Industry, trade and services - horizontal view/Information society statistics

Table 19.14

Main indicators for hotels and similar establishments, 2003 (thousands)

	Number of establishments (1)	Number of bedrooms	Number of bed places (2)	Arrivals of residents (3)	Arrivals of non-residents (4)	Nights spent, residents (3)	Nights spent, non-residents (3)
EU-25	202	:	10 534	:	:	:	:
BE	2	66	122	2 119	5 261	4 061	10 281
CZ	4	97	225	3 462	4 485	9 779	13 688
DK	0	34	67	1 654	1 294	4 631	4 507
DE	38	892	1 611	68 704	15 979	156 240	33 301
EE	0	9	18	306	1 009	558	2 086
EL (5)	8	320	606	5 284	6 451	12 753	38 522
ES	17	741	1 452	35 283	27 249	91 295	136 865
FR	18	603	1 207	66 365	32 520	115 536	69 323
IE	5	63	146	2 770	3 577	7 395	17 321
IT	33	1 000	1 969	39 156	28 174	135 217	93 935
CY	1	45	91	400	1 818	957	13 424
LV	0	8	15	257	402	669	963
LT	0	7	14	175	385	342	766
LU	0	8	15	24	581	80	1 144
HU	2	64	159	2 380	2 599	5 824	8 046
MT	0	18	39	:	:	:	:
NL	3	88	180	7 379	6 931	13 384	13 798
AT	15	283	566	6 437	13 748	18 667	55 200
PL	2	69	134	4 834	2 701	8 813	5 450
PT	2	108	246	4 714	4 906	10 661	23 215
SI	0	16	29	463	1 053	1 725	3 166
SK	1	27	55	1 234	1 043	3 796	3 560
FI	1	56	120	5 415	1 800	9 671	3 758
SE	2	96	185	10 359	2 552	16 235	4 833
UK	44	600	1 062	52 020	14 397	118 480	49 003
BG	1	70	144	1 431	1 375 650	3 058	8 987
HR	1	77	194	928	3 087	2 839	16 830
RO (6)	3	96	199	3 575	:	14 071	2 301

(1) EU-25 and Greece, 2002. (2) EU-25, 2002. (3) Ireland, 2002. (4) Ireland, 2001 (5) 2002. (6) 2001.

Source: Eurostat, Industry, trade and services (Tourism)

Table 19.15

Main indicators for collective accommodation establishments other than hotels, 2003 (thousands)

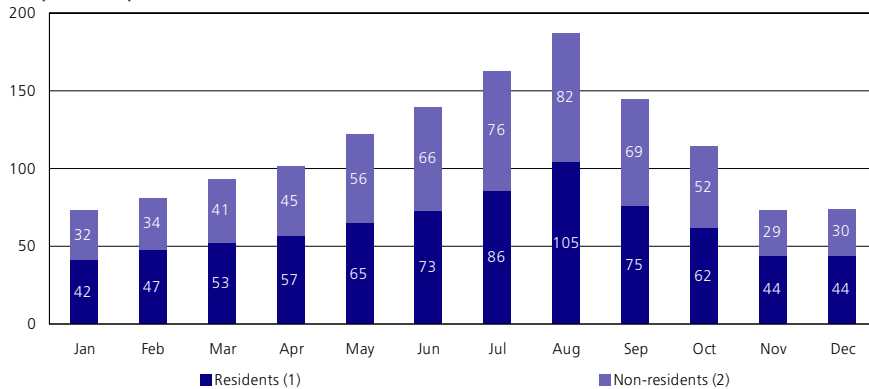
	Number of establishments (1)	of which, tourist campsites (1)	of which, holiday dwellings	Total number of bed places (2)
BE	1.6	0.5	0.1	123.4
CZ	3.8	0.5	0.3	246.0
DK	0.6	0.4	0.1	65.5
DE	17.6	2.4	10.8	1 607.7
EE	0.3	0.0	0.1	15.9
EL	0.4	0.4	:	606.3
ES	13.8	1.3	4.3	1 393.9
FR	10.4	8.3	1.1	1 625.5
IE	4.2	0.1	3.8	145.0
IT	79.9	2.5	58.5	1 929.5
CY	0.1	0.0	0.1	90.1
LV	0.1	0.0	0.0	13.7
LT	0.2	0.0	0.2	12.0
LU	0.3	0.1	0.1	14.6
HU	1.3	0.3	0.5	154.6
MT	0.0	:	0.0	0.3
NL	3.8	2.2	0.8	177.4
AT	6.2	0.5	3.1	569.3
PL	5.6	0.4	0.4	127.6
PT	0.3	0.2	:	239.9
SI	0.4	0.0	0.0	28.2
SK	1.2	0.1	0.1	53.9
FI	0.5	0.3	0.1	117.9
SE	2.0	1.1	0.3	180.8
UK	37.6	3.4	33.1	1 188.1
BG	0.2	0.0	:	14.9
HR	0.5	0.2	0.1	289.5
RO (3)	0.6	0.1	:	77.7

(1) Greece, 2002. (2) Malta, 2001. (3) 2001.

Source: Eurostat, Industry, trade and services (Tourism)

Figure 19.5

Number of nights spent in hotels and similar establishments, EU average, 2003 (millions)



(1) Greece and Ireland, 2002; Lithuania and Malta, not available.
 (2) Greece and Ireland, 2002; Malta, 2001; Lithuania, not available.
 Source: Eurostat, Industry, trade and services (Tourism)

Table 19.16

Arrivals and nights spent in hotels and similar establishments, according to residence status, 2003 (1)

	Share of non-residents in total arrivals (%)	Average number of nights spent per arrival (units)	
		Residents	Non-residents
BE	71.3	1.9	2.0
CZ	56.4	2.8	3.1
DK	43.9	2.8	3.5
DE	18.9	2.3	2.1
EE	76.7	1.8	2.1
EL	55.0	2.4	6.0
ES	43.6	2.6	5.0
FR	32.9	1.7	2.1
IE	:	:	:
IT	41.8	3.5	3.3
CY	82.0	2.4	7.4
LV	61.0	2.6	2.4
LT	68.8	2.0	2.0
LU	96.1	3.4	2.0
HU	52.2	2.4	3.1
MT	:	:	:
NL	48.4	1.8	2.0
AT	68.1	2.9	4.0
PL	35.8	1.8	2.0
PT	51.0	2.3	4.7
SI	69.5	3.7	3.0
SK	45.8	3.1	3.4
FI	24.9	1.8	2.1
SE	19.8	1.6	1.9
UK	21.7	2.3	3.4
BG	49.0	2.1	6.5
HR	76.9	3.1	5.5

(1) Greece, 2002; Romania, 2001.
 Source: Eurostat, Industry, trade and services (Tourism)

Table 19.17

Hotels; camping sites, other provision of short-stay accommodation (NACE Groups 55.1 and 55.2)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (43.0)	Finland (26.7)	Malta (237.2)	Malta (34.9)
2	Finland (38.0)	Belgium (26.2)	Latvia (231.1)	Latvia (33.8)
3	Belgium (37.5)	Sweden (25.8)	Estonia (208.0)	Cyprus (27.9)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Each person employed in the accommodation services sector in the EU-25 generated on average EUR 28 400 of value added (apparent labour productivity) in 2002, while average personnel costs per employee reached EUR 18 600. Both indicators were lower than for non-financial services as a whole, but higher than the averages for the tourism sector by EUR 7 100 and EUR 2 900. Value added for accommodation services covered personnel costs adjusted by the ratio of employees to persons employed by about 1.5 times, which marked a level of wage adjusted labour productivity above the average for the tourism sector. The gross operating rate for the EU-25's accommodation services sector was rather high (21.6 % of turnover) compared with both the tourism sector and the non-financial services economy, respectively 7.1 and 10.4 percentage points higher.

Apparent labour productivity was higher in the accommodation services sector than in the tourism sector in all of the Member States in 2002, but lower than the non-financial services average in most of the Member States⁽¹⁵⁾. The highest levels of apparent labour productivity for the accommodation services sector were posted by Luxembourg (above EUR 40 000), Belgium and France (above EUR 35 000) while Lithuania (EUR 5 100) and Poland (EUR 8 200) had the lowest. The EU-25 pattern for average personnel costs for the accommodation services sector (lower than for non-financial services) was repeated in all Member States, except in Lithuania. Wage adjusted labour productivity was highest in Malta (237.2 %) and Latvia (231.1 %)⁽¹⁶⁾. In Poland, value added did not cover personnel costs once adjusted by the ratio of employees to persons employed, as the wage adjusted labour productivity ratio was 65.0 %.

Gross operating rates were above 30 % in Malta and Latvia in the accommodation services sector in 2002, with a large majority of the remaining countries recording rates between 15.0 % and 27.9 %, while this indicator had a negative value in Poland.

⁽¹⁵⁾ Belgium, the Czech Republic, France and the Ireland, 2001; Greece and Poland, not available.

⁽¹⁶⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

19.3: RESTAURANTS, BARS AND CATERING

The activities of the sale of meals and beverages for consumption are classified under NACE Groups 55.3 (restaurants), 55.4 (bars) and 55.5 (canteens and catering). It is important to bear in mind that only enterprises for which the provision of drinks and meals is the principal activity are covered by the statistics presented in this subchapter. Enterprises offering food and drink as a complement to their core business are not included, for example, the sale of food and beverages in cinemas, recreation parks, or transport services' enterprises where, in some cases, meals and beverages may represent a significant secondary activity.

This subchapter covers catering enterprises and outlets selling food and beverages to final consumers that may be tourists or local customers. Outlets can take the form of anything from small, family-run businesses to multinational franchises, from snack outlets and fast-food chains to high-class establishments specialising in haute cuisine, while catering enterprises generally operate on a business-to-business level, to the point that they could be associated with other business services' enterprises (see Chapter 22).

The EU legislative framework for restaurants, bars and catering mainly deals with food labelling and food hygiene (with a new Regulation on food hygiene⁽¹⁷⁾, which is to come into force in 2006, requiring that all food business operations comply with hygiene rules mainly as regards layout, design and size of premises, storage and disposal of waste, personal hygiene, etc). More indirectly, there is also legislation in relation to the level of VAT⁽¹⁸⁾, while smoking bans in public places have already been introduced in Belgium, Ireland, Italy, Malta and Sweden at the time of writing.

⁽¹⁷⁾ Regulation of 28 January 2002 laying down the general principles and requirements of food law, O.J. L 31, 1.2.2002.

⁽¹⁸⁾ Proposal for a Directive on reduced rates of VAT, COM (2003) 397 final.

STRUCTURAL PROFILE

Restaurants, bars and catering (NACE Groups 55.3 and 55.4) was the largest of the three tourism related subsectors in terms of value added in 2002, generating a total of EUR 104.5 billion in the EU-25, which accounted for 4.0 % of the non-financial services (NACE Sections G to I and K) total. Among the Member States⁽¹⁹⁾, this proportion was somewhat higher in Ireland (5.8 %) and Spain (5.6 %). The United Kingdom was by far the largest contributor to the EU-25 total value added created by restaurants, bars and catering (25.8 %).

The labour intensive nature of restaurants, bars and catering was reflected through the 6.0 million persons employed, a large number compared with the other tourism related activities covered in this chapter. However, it should be kept in mind that this figure is based on headcounts and does not take into account seasonal factors or the average duration. Member States where restaurants, bars and catering represented a higher proportion of total employment in non-financial services than the EU-25 average included Ireland, Portugal, the United Kingdom, Spain, Malta, Italy and Belgium. The United

⁽¹⁹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Kingdom was the largest employer within the restaurant, bars and catering sector in the EU-25 with 1.47 million persons employed (24.5 % of the EU-25 total).

PRODUCTIVITY AND PROFITABILITY

Restaurants, bars and catering had the lowest apparent labour productivity of the three tourism subsectors in the EU-25. On average, each person employed in restaurants, bars and catering generated EUR 17 300 of value added, a figure that was lower than the non-financial services average of EUR 20 500. In keeping with this low figure for apparent labour productivity, average personnel costs for restaurants, bars and catering were EUR 13 500 per employee, which was EUR 12 400 lower than the non-financial services average. As a consequence, wage adjusted labour productivity for the restaurants, bars and catering sector was 128.2 %, the only one of the three tourism related subsectors where this percentage was lower than the non-financial services average.

In terms of profitability, the gross operating surplus generated by restaurants, bars and catering in the EU-25 represented 16.3 % of turnover, which was 5.1 percentage points above the equivalent ratio for non-financial services as a whole.

Table 19.18
Restaurants; bars; canteens and catering (NACE Groups 55.3, 55.4 and 55.5)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (25.8)	Ireland (144.0)	United Kingdom (24.5)	Ireland (154.9)
2	France (15.1)	Spain (139.8)	Spain (13.3)	Portugal (140.2)
3	Italy (11.9)	Portugal (125.4)	Germany (11.9)	United Kingdom (132.4)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 19.19
Restaurants; bars; canteens and catering (NACE Groups 55.3, 55.4 and 55.5)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (31.6)	Finland (22.8)	Malta (170.4)	Cyprus (23.1)
2	Finland (27.3)	Luxembourg (22.4)	United Kingdom (156.1)	Malta (22.3)
3	France (25.1)	France (22.0)	Netherlands (144.6)	Luxembourg (21.5)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 19.20

Hotels and restaurants (NACE Division 55)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	373.0	8.8	3.3	4.5	39.7	0.2	:	44.0	56.7	7.2	51.0	1.5	0.2	0.2	0.9	2.1	0.5
Production (EUR billion) (2)	306.2	7.9	2.4	4.1	33.8	0.2	:	43.8	45.6	4.5	48.2	1.4	0.2	0.2	0.9	1.5	0.5
Value added at factor cost (EUR billion) (3)	160.7	3.2	0.6	2.0	19.2	0.1	:	19.5	24.0	2.7	20.1	0.8	0.1	0.1	0.4	0.5	0.3
Gross operating surplus (EUR billion) (4)	66.7	1.6	0.1	0.6	8.1	0.0	:	7.6	6.0	1.0	9.8	0.4	0.0	0.0	0.2	0.1	0.2
Purchases of goods and services (EUR billion) (2)	184.4	5.3	2.0	2.6	16.8	0.2	:	25.2	29.3	4.5	30.7	0.6	0.2	0.2	0.4	1.5	0.3
Gross investment in tangible goods (EUR million) (3)	:	963	130	190	1 194	30	:	3 534	4 881	442	3 677	94	35	54	:	195	31
Number of persons employed (thousands) (5)	8 004	144	181	93	1 033	15	:	1 043	796	133	945	32	20	26	13	127	18
Personnel costs (EUR million) (4)	94 039	1 669	442	1 343	11 102	51	:	11 875	16 187	1 646	10 310	469	43	54	248	429	117
App. labour productivity (EUR thous./pers. emp.) (4)	20.1	20.4	3.6	21.0	18.6	5.6	:	18.7	27.9	20.0	21.3	25.9	3.6	2.5	34.3	3.9	15.8
Average personnel costs (EUR thous./employee) (4)	14.9	15.3	3.9	16.1	12.9	3.5	:	15.5	23.1	14.6	18.4	17.4	2.2	2.3	23.1	4.5	7.6
Wage adjusted labour productivity (%) (4)	134.7	133.7	92.3	130.6	144.1	158.1	:	120.3	120.7	136.5	116.2	148.9	168.9	112.8	148.4	85.4	206.7
Gross operating rate (%) (4)	17.9	18.0	5.3	13.7	20.5	13.4	:	17.2	11.6	14.1	19.3	25.3	13.4	5.0	22.8	3.0	30.5
Investment per person employed (EUR thousand) (4)	:	6.1	0.8	2.0	1.2	2.0	:	3.4	6.2	3.3	3.9	2.9	1.8	2.1	:	1.5	1.7
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	15.4	11.0	3.0	7.1	0.9	0.3	4.4	7.3	83.3	0.6	:	0.9	:	:	:	4.8	14.4
Production (EUR billion)	15.0	10.8	2.8	6.2	0.9	0.2	2.9	7.5	71.4	0.4	:	0.6	:	:	:	4.8	14.7
Value added at factor cost (EUR billion)	6.7	5.3	1.0	2.4	0.3	0.1	1.6	2.8	37.2	0.2	:	0.1	:	:	:	1.9	7.6
Gross operating surplus (EUR billion)	2.9	2.1	-0.1	0.7	0.1	0.0	0.4	0.7	15.7	0.1	:	0.0	:	:	:	0.3	1.5
Purchases of goods and services (EUR billion)	4.8	5.7	1.9	4.8	0.5	0.2	2.9	4.7	43.8	0.5	:	0.8	:	:	:	2.9	7.0
Gross investment in tangible goods (EUR million)	723	930	215	603	103	27	155	513	7 294	223	:	202	:	:	:	331	:
Number of persons employed (thousands)	328	217	210	230	30	17	55	109	1 831	83	:	88	:	:	:	83	184
Personnel costs (EUR million)	3 824	3 146	1 037	1 666	249	65	1 181	2 151	21 553	73	:	144	:	:	:	1 658	6 028
App. labour productivity (EUR thous./pers. emp.)	20.5	24.4	4.6	10.3	10.3	6.1	29.7	25.8	20.3	1.8	:	1.3	:	:	:	23.2	41.2
Average personnel costs (EUR thous./employee)	13.8	18.4	9.7	8.7	9.9	3.9	23.7	22.1	12.7	1.3	:	1.8	:	:	:	21.2	:
Wage adjusted labour productivity (%)	148.7	132.2	47.9	118.8	103.5	153.6	125.1	116.4	160.7	141.0	:	74.3	:	:	:	109.5	:
Gross operating rate (%)	18.9	19.4	-2.0	9.9	7.1	12.8	10.0	9.1	18.8	13.1	:	-3.4	:	:	:	5.6	10.7
Investment per person employed (EUR thousand)	2.2	4.3	1.0	2.6	3.4	1.6	2.8	4.7	4.0	2.7	:	2.3	:	:	:	4.0	:

(1) Norway and Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.

(4) Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Transport services



The competitiveness of an economy is greatly dependent on the quality and efficiency of its transport system, both to transport materials and other inputs, as well as finished goods, but also to transport passengers for work, school, shopping and other leisure activities. While the car is the most important means of transport for passengers, transport services also have an important role to play. There are a number of perspectives on the quality of transport services, for example timeliness (related to speed, delays, cancellations, congestion), accessibility (frequency, network coverage), and safety (accidents).

Environmental issues are also of great importance as transport services are a major source of emissions and noise, as well as land use. Table 20.1 (overleaf) shows the change in selected emissions from all transport (not only the transport sector) between 1990 and 2002.

Box 20.1: note on emissions from transport and transport traffic volumes

When analysing emissions from transport and transport traffic volumes (the number of passengers or tonnes of freight - see later), it is important to bear in mind that these include own account transport as well as transport services marketed to clients (for hire and reward). This is particularly important in road transport where, for example, a manufacturer might collect materials or deliver own output, rather than contracting a transport service to do this. Equally, the use of own vehicles (typically cars) accounts for a very large part of passenger transport. While this own account transport is included in the statistics on transport traffic volumes and emissions from transport, it does not contribute towards the statistics on the transport services sector.

The transport policy strategy currently being implemented within the EU is based upon the White Paper 'European transport policy for 2010: time to decide' ⁽¹⁾, which was adopted in 2001 and aims to improve transport quality and efficiency of transport within the EU. With respect to transport infrastructure, the Gothenburg European Council in 2001 invited the Community institutions to adopt revised guidelines for the trans-European transport network (TEN-T), with a view to giving priority, where appropriate, to infrastructure investment for railways, inland waterways, short sea shipping, intermodal operations and effective interconnections. These revised guidelines for the development of the TEN-T were adopted in 2004 ⁽²⁾ leading to a new list of 30 priority projects mainly involving rail axis, but also motorways, inland waterways, multimodal axis, the Galileo project (satellite radio navigation system) and introducing several 'motorways of the sea' (intermodal maritime-based routes).

⁽¹⁾ More information at: http://europa.eu.int/comm/energy_transport/en/lb_en.html.

⁽²⁾ Decision 884/2004/EC.

Transport services includes: land transport (NACE Division 60), which includes railways, urban transport systems, road transport, as well as transport by pipelines; water transport (NACE Division 61), both on inland waterways and at sea; air transport (NACE Division 62); and supporting and auxiliary transport activities (NACE Division 63), which cover cargo handling and storage, the operation of railway stations, ports and airports, travel agencies and tourist assistance activities.

Note that travel agencies (NACE Group 63.3) are covered in Subchapter 19.1 and transport by pipelines (NACE Group 60.3) in Chapter 2, although both are sometimes included in the aggregated data used in this overview.

NACE

60: land transport; transport via pipelines;
 60.1: transport via railways;
 60.2: other land transport;
 61: water transport;
 61.1: sea and coastal water transport;
 61.2: inland water transport;
 62: air transport;
 62.1: scheduled air transport;
 62.2: non-scheduled air transport;
 62.3: space transport;
 63: supporting and auxiliary transport activities; activities of travel agencies;
 63.1: cargo handling and storage;
 63.2: other supporting transport activities;
 63.4: activities of other transport agencies.

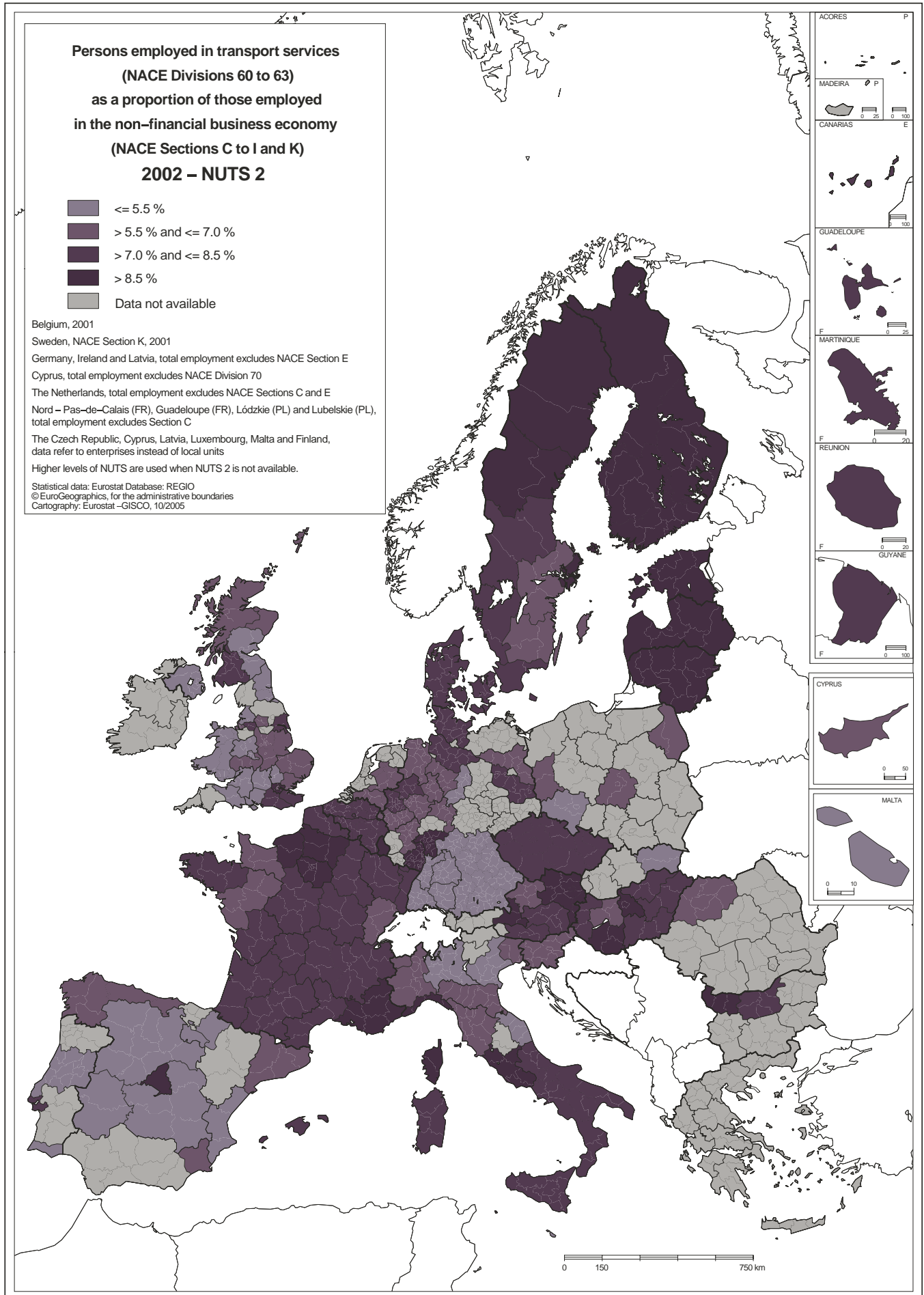


Table 20.1
Emissions by all transport, EU-25 (1)

	Transport				Road transport			
	1 000 tonnes		as a share of all emissions (%)		1 000 tonnes		as a share of transport emissions (%)	
	1990	2002	1990	2002	1990	2002	1990	2002
Sulphur oxides	1 266	406	5.3	5.0	763	123	60.3	30.3
Nitrogen oxides	9 025	6 406	56.1	57.7	7 164	4 775	79.4	74.5
Ammonium	25	83	0.5	2.2	21	81	84.6	96.8
Carbon monoxide	37 781	18 047	61.5	53.2	35 058	15 610	92.8	86.5
Non-methane volatile organic compounds	7 199	3 502	42.5	33.7	6 417	2 853	89.1	81.5
Carbon dioxide	762 416	911 336	18.5	22.9	:	:	:	:
Methane	246	142	0.9	0.7	:	:	:	:
Nitrous oxide	40	87	2.8	7.1	:	:	:	:

(1) Transport includes: civil aviation; road transportation; railways; navigation; other transportation (IPCC common reporting format sector classification); excluding international transport.

Source: Eurostat - Environment and energy, Environment, Air pollution/climate change, Air emissions

Table 20.2
Transport services (NACE Divisions 60 to 63)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Transport services	337 266	13.0	8 222	12.0
Land transport; transport via pipelines	168 763	6.5	5 259	7.7
Water transport	16 620	0.6	174	0.3
Air transport	26 968	1.0	411	0.6
Supporting & aux. transport activities; travel agencies	124 915	4.8	2 377	3.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

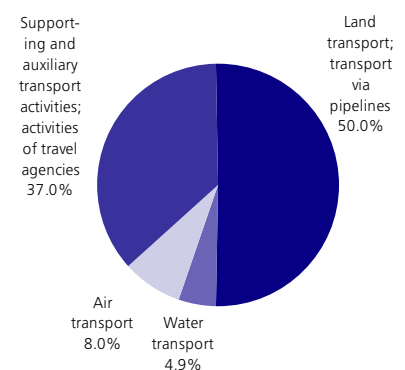
There have been a number of legislative developments in the transport services sector in 2004. For rail transport these constitute steps towards market opening, to be achieved through the adoption in 2004 by the European Parliament and the Council of the 'second package' for the railway sector. Furthermore, in 2004 the European Commission adopted its proposals for a 'third railway package' to revitalise European railways - see Subchapter 20.1 for more information on these developments. Although there have been open markets in air transport for several years, and these have had a major impact on the structure of the industry, several legislative texts on air transport were adopted in 2004 concerning essentially the establishment of a single European sky and issues relating to air traffic navigation, the interoperability of air traffic management, the organisation and use of airspace, and the allocation of landing slots - see Subchapter 20.5 for more information.

STRUCTURAL PROFILE

The transport services sector (NACE Divisions 60 to 63, and hence including pipelines and travel agencies) in the EU-25 generated EUR 337.3 billion of value added in 2002. This represented a 13.0 % share of value added in the non-financial (NACE Sections G to I and K) services sector. Some 8.2 million persons were employed in the transport services sector in 2002 in the EU-25, which represented 12.0 % of those working in non-financial services.

Exactly half of the wealth created by transport services within the EU-25 was generated by land transport (NACE Division 60, including transport via pipelines), where value added reached EUR 168.8 billion in 2002. The diverse set of activities classified under the heading of auxiliary transport activities (NACE Division 63, including travel agencies) was the second largest subsector within transport services, with value added of EUR 124.9 billion, or 37.0 % of the total. Air transport (8.0 %) and water transport (4.9 %) were the two smallest subsectors - see Figure 20.1.

Figure 20.1
Transport services (NACE Divisions 60 to 63)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Malta was by far the most specialised Member State ⁽³⁾ in transport services within the EU-25 in 2002, due in part to the importance of tourism related activities and the sizeable merchant fleet registered in this country. The Baltic States were also particularly specialised in transport services, with transport activities contributing between 1.6 and 1.8 times as much to non-financial services' value added as the average in the EU-25. Compared with other non-financial services, the transport services sector in Ireland and the United Kingdom was proportionally smaller than the EU-25 average, both in terms of value added and employment.

In 2002 the following national specialisation was observed for each transport mode in value added terms ⁽⁴⁾: Lithuania, Slovakia and Hungary for land transport (including transport via pipelines), Denmark and Finland for water transport, Malta and Luxembourg for air transport. For supporting and auxiliary transport activities (including travel agencies) Malta, Estonia and Latvia, and to a lesser extent Lithuania, were the most specialised.

Size class data show that transport services enterprises were generally larger than the non-financial services' average. Micro and small enterprises (employing less than 50 persons) contributed slightly more than two fifths (41.7 %) of total value added in the transport services sector – see Figure 20.2. The contribution of medium-sized and large enterprises was particularly high in the air transport sector where they generated 95.5 % of value added and accounted for 96.6 % of employment.

TRANSPORT OF GOODS AND PASSENGERS

Over several decades, road and sea transport increased strongly in the EU-15, while the volume of goods transported by inland waterways was relatively stable and rail freight transport declined – see Figure 20.3. Since 1993 however, the decline in the use of rail freight transport was reversed, and over the same period the use of inland waterways for freight transport also increased slightly. Figure 20.4 shows a shorter time series for the EU-25, presented as an index set to 1995=100. This confirms the growth in the use of inland waterways freight transport, although at a slower rate than for road transport, and suggests that the growth in rail freight transport in the EU-15 was cancelled by a decline in this mode among the Member States that joined the EU in 2004 – see Subchapter 20.1 for more information.

⁽³⁾ Belgium, the Czech Republic, Greece, France, Cyprus and Poland, not available.

⁽⁴⁾ Belgium, the Czech Republic, Greece, France and Cyprus, not available; Ireland and Poland, not available for NACE Divisions 61, 62 and 63; Slovakia, not available for NACE Divisions 61 and 62.

Table 20.3

Transport services (NACE Divisions 60 to 63)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (18.8)	Malta (226.7)	Germany (15.7)	Slovakia (183.1)
2	Germany (18.5)	Estonia (175.5)	France (14.2)	Latvia (166.2)
3	France (14.9)	Lithuania (173.1)	United Kingdom (12.8)	Lithuania (164.5)

(1) Belgium, the Czech Republic, Greece and Poland, not available.

(2) Belgium, the Czech Republic, Greece, France, Cyprus and Poland, not available.

(3) Greece, France and Poland, not available.

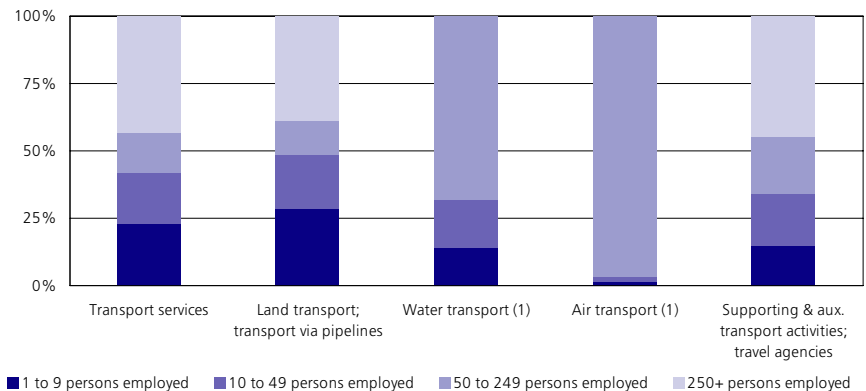
(4) Greece, France, Cyprus and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 20.2

Transport services (NACE Divisions 60 to 63)

Share of employment by enterprise size class, EU-25, 2001

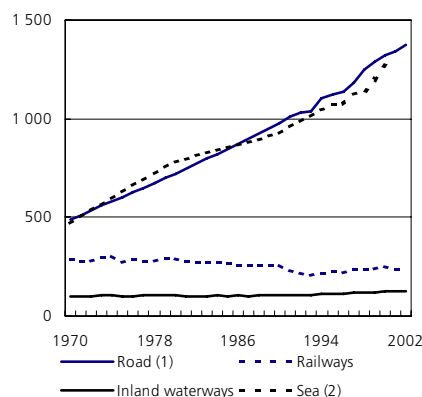


(1) Size class 50 to 249 persons employed includes also enterprises with 250+ persons employed.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Figure 20.3

Evolution of goods transport, EU-15 (billion tonne-kilometres)



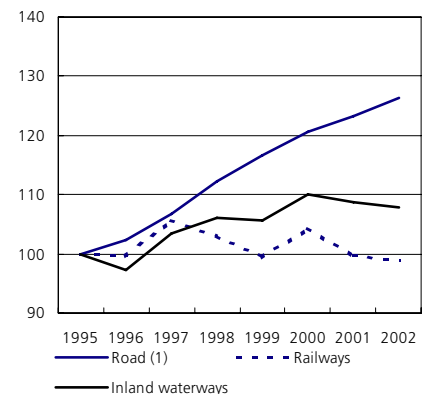
(1) Haulage on national territory only.

(2) Domestic and intra-EU-15 traffic only.

Source: Eurostat; ECMT; UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Figure 20.4

Index of the evolution of goods transport (billion tonne-kilometres), EU-25 (1995=100)



(1) Vehicles registered in the country only.

Source: Eurostat; ECMT; UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Rail did not experience the same long term decline in terms of passenger transport in the EU-15 as it did for freight transport. Nevertheless, like buses and coaches, and trams and metros, its growth over the last three decades was considerably lower than that of passenger cars and air transport – see Figure 20.5. A shorter time-series exists for the EU-25 from 1995, and this confirms that in the past few years growth in the use of passenger cars was no longer outstripping the rates recorded by most other forms of land transport.

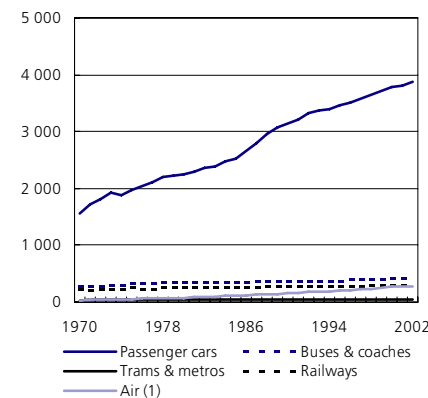
EMPLOYMENT CHARACTERISTICS

On the basis of Labour Force Survey data (see overleaf), transport services clearly stand out from most other service activities in terms of their gender profile. Only 20.9 % of the persons employed in this sector in 2004 in the EU-25 were women, which was less than half the average for services (NACE Sections G to K), where women accounted for 44.4 % of those employed. In both road and water transport (NACE Divisions 60 and 61) the share of women in the workforce was below 20 %, a situation that, among the services NACE divisions, was only repeated for motor trades (NACE Division 50). Among the four transport NACE divisions, the share of women in the workforce was highest in air transport, at 40.5 %, still below the services average.

Part-time work was also relatively less frequent in transport services than in other service activities, since 91.0 % of those employed in transport services in the EU-25 in 2004 worked on a full-time basis, compared with a services' average of 80.3 %.

The age profile of the transport services workforce was also different from the services average. The proportion of the transport services workforce aged 15 to 24 was 7.1 % in 2004, much lower than the 12.9 % average for all services. The share of the transport services workforce aged 25 to 49 was 68.4 %, 2.3 percentage points higher than the services average, while persons aged 50 or more accounted for nearly a quarter (24.6 %) of the workforce compared with just over one fifth (21.0 %) for the whole of the services sector.

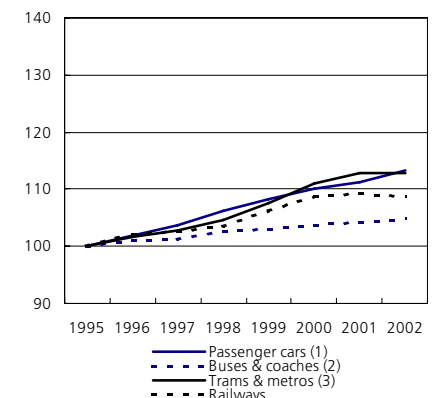
Figure 20.5
Evolution of land and air passenger transport, EU-15
(billion passenger-kilometres)



(1) Intra-EU traffic only.
Source: Eurostat; ECMT; UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Structural business statistics indicate that the proportion of paid employees in the total number of persons employed (which also includes the self-employed and unpaid family workers) was 86.1 % in the EU-25 transport services sector in 2002. This was 4.4 percentage points higher than the non-financial services (NACE Sections G to I and K) average: in fact all four of the NACE divisions within transport services recorded a higher proportion of paid employees than the non-financial services average, exceeding 90 % for water transport and auxiliary and supporting transport services, and reaching 98.4 % for air transport.

Figure 20.6
Index of the evolution of land passenger transport (billion passenger-kilometres), EU-25 (1995=100)



(1) The Czech Republic, Hungary, Poland and Slovakia, including powered two-wheelers; Estonia, Cyprus, Lithuania, Latvia and Malta, not available.
(2) Cyprus and Malta, not available.
(3) Estonia and Poland, not available.
Source: Eurostat; ECMT; UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

PRODUCTIVITY AND PROFITABILITY

The high levels of full-time employment may to some extent explain why average personnel costs faced by transport services enterprises were generally higher than in the other services: in transport services they averaged EUR 30 400 per employee in 2002 in the EU-25 compared with EUR 25 900 for non-financial services as a whole. Average personnel costs in the EU-25 ranged from EUR 26 500 in the land transport subsector to more than twice as much (EUR 55 300) in the air transport subsector.

The relatively high level of average personnel costs impacted on the wage adjusted labour productivity ratio, which represents the extent to which value added per person employed covers average personnel costs. In the EU-25's transport services' sector, this ratio was 134.7 % in 2002, some 11.2 percentage points below the non-financial services' average. A further analysis shows that there were considerable differences in the value of this ratio between the four transport services NACE divisions: air transport (118.7 %) and land transport (121.0 %) both recorded relatively low rates, while water transport (238.9 %) and auxiliary and supporting transport services (159.8 %) recorded rates above the non-financial services average. In the case of water transport this was the third highest ratio in the EU-25 among the NACE divisions that make-up the non-financial services sector, behind real estate activities and the renting of machinery and equipment (NACE Divisions 70 and 71).

Table 20.4

Transport services (NACE Divisions 60 to 63)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years
EU-25	79.1	142.4	91.0	113.3	7.1	68.4	24.6
BE	78.3	133.0	89.4	113.8	6.4	72.7	20.9
CZ	76.5	142.9	98.5	104.5	5.9	65.2	28.9
DK	74.5	125.3	88.2	118.7	7.9	62.0	30.0
DE	75.4	144.8	87.1	118.4	7.0	66.4	26.5
EE	74.2	146.5	95.0	105.3	:	67.2	30.8
EL	83.1	136.9	98.5	102.5	6.8	67.2	26.0
ES	84.8	151.0	96.4	107.1	6.0	72.3	21.7
FR	77.5	137.7	92.5	109.1	7.1	73.2	19.8
IE	79.2	146.3	91.3	115.7	10.3	66.1	23.5
IT	83.8	141.1	93.2	110.6	5.4	70.8	23.8
CY	67.4	127.2	94.6	103.2	8.6	66.2	25.1
LV	80.6	159.0	96.8	106.8	7.6	65.8	26.5
LT	78.6	149.3	97.7	104.2	:	67.9	27.4
LU	85.2	143.7	95.1	112.3	7.0	78.8	16.7
HU	79.4	147.8	97.9	103.4	4.6	74.1	21.4
MT	77.3	108.9	94.9	105.6	18.0	61.2	24.2
NL	74.7	129.0	70.3	127.9	11.7	63.9	24.3
AT	78.1	155.2	89.7	120.5	12.7	69.3	17.9
PL	82.5	154.0	97.0	107.9	3.8	75.1	21.1
PT	81.3	146.0	96.3	103.5	5.3	65.7	29.0
SI	82.1	158.4	93.9	102.5	9.0	69.4	21.6
SK	82.2	161.3	98.7	102.2	6.0	70.7	23.2
FI	78.6	146.4	92.0	110.7	10.6	60.4	29.0
SE	76.0	128.2	83.8	110.0	8.1	60.1	31.8
UK	78.1	140.2	86.6	122.1	8.9	62.5	28.6

(1) Luxembourg and Malta, 2003.

Source: Eurostat, Labour market, Total employment - LFS series

Three Member States ⁽⁵⁾ reported significantly higher wage adjusted labour productivity ratios in the transport services sector compared with the EU-25 average, namely Malta (376.0 %), Latvia (211.0 %) and Estonia (209.7 %). Comparing transport services and the non-financial services ⁽⁶⁾, the wage adjusted labour productivity ratio for transport services was higher only in Malta, Estonia, Denmark, Belgium, the United Kingdom and Italy.

⁽⁵⁾ Belgium, the Czech Republic and France, 2001; Greece and Poland, not available.

⁽⁶⁾ Cyprus, also not available.

Table 20.5

Transport services (NACE Divisions 60 to 63)
**Labour productivity, personnel costs and gross operating rate:
 ranking of the top 3 Member States, 2002 (1)**

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Denmark (70.8)	Luxembourg (44.6)	Malta (376.0)	Malta (46.0)
2	Luxembourg (62.7)	Denmark (41.9)	Latvia (211.0)	Latvia (18.1)
3	United Kingdom (60.1)	Belgium (41.1)	Estonia (209.7)	Cyprus (17.8)

(1) Belgium, the Czech Republic and France, 2001; Greece and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

20.1: RAILWAY TRANSPORT

This subchapter includes information on the transport of passengers and goods by railways (NACE Group 60.1). The activities relating to the operation of the railway infrastructure are classified as auxiliary transport activities and are covered by Subchapter 20.5. Equally, this subchapter does not cover urban and suburban railway transportation, which is included in the following subchapter on road and other land transport.

Railways figure at the top of the EU policy agenda in the field of transport. Rail transport in the EU experienced a steady decline over several decades, especially in the area of goods transport, notably as a result of the move away from heavy industry (with low value bulk inputs or output) and competition from road haulage. Railway transport is often perceived as less flexible and less reliable than road haulage as regards delivery times, an essential element when considering just-in-time delivery. In addition, international rail traffic is hindered by long stopping times en route, to give priority to passenger trains or because of procedures at borders, while at the same time formalities for heavy goods vehicles have been greatly simplified following the introduction of the single market.

In September 2001, the European Commission published a White Paper⁽⁷⁾ on European transport policy for 2010. For railways, the paper set the objective of maintaining the modal share of rail transport by 2010 at the same level as in 1998, thus stemming the decline of the rail transport sector. In recent years, considerable legislative efforts have been made to open up and revitalise the rail transport sector, motivated in part by the wish to take advantage of lower emissions from rail transport, and to reduce road congestion. Building on efforts during the 1990s that had addressed among other issues the separation of infrastructure from railway service operations and track access, the European Commission subsequently proposed three packages of legislation for rail transport. The first was adopted by the Parliament and Council in 2001, before the European Commission's White Paper, and focused on a drive to open up the international rail freight network. The second package was adopted by the Parliament and Council in 2004, and concerned opening-up the rail freight transport market to include national freight markets, as well as legislation

Box 20.2: structural change – rail transport services, infrastructure and related activities

In several EU countries the distinction between rail service operators and rail infrastructure operators has become clearer, with these sometimes being given separate legal identities. As enterprises in structural business statistics are classified according to their principal activity, an enterprise that had carried out simultaneously these two types of rail activities would be classified to rail transport (NACE Group 60.1) as this would normally be the largest of the two activities; after separating into two enterprises only the rail transport enterprise would stay classified to NACE Group 60.1, and the rail infrastructure operator would be classified to supporting land transport activities (NACE Class 63.21).

An analysis at the national level of the large drop in employment in the EU-25's railway sector between 2000 and 2001 shows some very large movements in a few Member States. In Italy, employment in rail transport fell from 129 500 in 2000 to 81 200 in 2001, while employment in other supporting land transport activities (NACE Class 63.21) increased from 44 500 to 87 400, which reflects the creation in 2001 of RFI as the Italian railway infrastructure operator. A separate rail infrastructure operator was created in Sweden several years ago, but nevertheless a large reduction can be seen in the Swedish rail transport employment data between 2000 and 2001. During 2000, the main Swedish train operator was split into several separate enterprises, including specialist enterprises for maintenance on the one hand, and property (including stations) on the other. These new enterprises are not considered in SBS as rail transport service enterprises, and this may explain a part of the reduction observed in Swedish rail transport employment.

aimed at improving interoperability (between networks) and safety; it also included the establishment of a railway agency to support the work on issues relating to safety and interoperability. Some impact from these legislative developments has already been felt in relation to the structure of the sector, with a number of mergers or alliances forming. Proposals for a third package were adopted by the European Commission in 2004 and concern opening up international passenger services to competition within the European Union, as such completing the integration of railway transport; other proposed legislative developments in this package related to the rights of passengers, certification for locomotive drivers, and the quality of freight services. It is hoped that improvements in rail passenger services will allow rail transport to compete more effectively with some segments of air transport. For passenger transport some of the rail network's strengths are the central locations of stations in urban areas and the almost seamless inter-connection with urban transport networks.

STRUCTURAL PROFILE

On the basis of structural business statistics, there were 993 500 persons employed in the EU-25's rail transport (NACE Group 60.1) sector in 2002, a slight increase compared to 2001, following an apparent fall of over 6 % between 2000 and 2001. However, care has to be taken when analysing time series data because of structural changes – see Box 20.2. EU-25 rail transport enterprises generated value added of EUR 35.1 billion in 2002, or 10.4 % of the total for transport services (NACE Divisions 60 to 63).

As has already been noted in the overview, during several decades rail lost significant ground relative to other transport modes in the EU-15 in terms of the volumes of goods and passengers transported. The decline in goods transport was not just relative to other transport modes, but represented an absolute fall in the volume of goods transported from 282 billion tonne-kilometres in 1970 to a low of 206 billion tonne-kilometres in 1993 before recovering to 236 billion tonne-kilometres by 2002. The decline in rail passenger transport was only relative, as the number of rail passenger-kilometres only declined in six of the years for which data are available since 1970. Overall, rail passenger transport grew from 219 billion passenger-kilometres in 1970 to 307 billion passenger-kilometres in 2002.

⁽⁷⁾ More information available at: http://europa.eu.int/comm/energy_transport/en/lb_en.html.

Figure 20.7 shows the development of both types of rail transport since 1990, and the reversal in fortunes in the 1990s can be clearly seen.

Behind these recent developments for the EU-25 as a whole, there are however a mixture of developments in individual Member States. Looking first at the transport of goods between 1995 and 2003, the EU-25 saw very little overall change. Nevertheless, all three of the Baltic States saw their respective volume of goods transported increase by at least 50 %, with Estonia's volumes increasing by over 150 %. The Netherlands, the United Kingdom, Greece and Austria all recorded an increase in the volume of goods transported by rail of between 25 % and 50 %. The strongest fall in rail goods transport was in the very small Irish market, which contracted by just over one third. Poland, the Czech Republic and Slovakia all recorded a contraction in the volume of goods transported by rail of between 25 % and 31 %. Looking at the same period for rail passenger transport, namely between 1995 and 2003, there is a contrasting pattern, notably for the Baltic States, all three of which recorded an absolute decline in rail passenger transport of between 39 % and 62 %, as did Slovakia. Eleven Member States, including Slovenia and Hungary among those Member States that joined the EU in 2004, recorded total growth of 10 % or more over this period, the highest rates being recorded in Sweden and the United Kingdom.

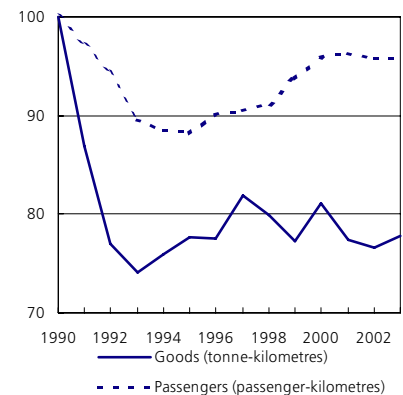
Table 20.6 shows the very strong growth in passenger volumes on high speed rail networks in the EU, where relatively new networks in Italy and Sweden recorded enormous growth since 1995, while volumes on the German and Spanish high speed rail networks also more than doubled over the same period. The French high-speed rail network had the largest volume of passenger traffic.

PRODUCTIVITY AND PROFITABILITY

Average personnel costs in the EU-25 railway transport sector reached EUR 29 500 per employee in 2002, less than EUR 1 000 below the transport services average (EUR 30 400). Wage adjusted labour productivity in the EU-25 was 119.7 % in the railway transport sector in 2002, practically the same as for road and other land transport, but notably lower than the 134.7 % average for all transport services.

The gross operating rate is calculated as the ratio of gross operating surplus (value added less personnel costs) to turnover. It is a measure of profitability and for the EU-25 rail transport sector stood at 9.9 % in 2002, compared with 12.5 % for all transport services. This was one of the lowest gross operating rates among transport services, but was higher than air transport in 2002.

Figure 20.7
Evolution of rail transport, EU-25 (1990=100) (1)



(1) Excluding Northern Ireland; 1991, passengers not available.

Source: UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Table 20.6
Passengers transported by high speed rail (billion passenger-kilometres) (1)

	1990	1995	2000	2001	2002	2003
BE	-	-	0.9	0.9	0.9	0.9
DE	-	8.7	13.9	15.5	15.3	17.5
ES	-	1.2	2.2	2.4	2.5	2.5
FR	14.9	21.4	34.7	37.4	39.9	39.6
IT	0.3	1.1	5.1	6.8	7.1	7.4
NL (2)	-	-	0.1	0.2	0.2	0.2
FI	-	-	0.1	0.1	0.1	0.1
SE (2)	0.0	0.4	2.0	2.2	2.3	2.3
UK	-	:	:	:	:	:

(1) None of the other Member States had high-speed rail networks.

(2) 2003, estimates.

Source: UIC in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

20.2: ROAD AND OTHER LAND TRANSPORT

Road and other land transport activities (NACE Group 60.2) cover road freight transport, urban and suburban passenger transport by bus, coach, tram, trolleybus, underground or elevated railway, inter-city land passenger transport (other than railways), as well as taxi operations and charters. This definition includes a diverse number of enterprises, ranging from independent lorry or taxi drivers to large national or metropolitan public transport enterprises.

Road freight transporters have over a long period expanded beyond simple transport services, to provide other supporting activities, notably logistics and warehousing, competing with specialists in these activities as well as wholesalers who have also extended the range of their operations into transport and supporting activities – see Chapter 17.

Road transport has been one of the main areas of growth in the transport sector over the past 30 years, as it has benefited from increased demand for mobility and flexibility from private individuals and enterprises alike. The greatest competitive advantage of road transport is perceived to be its flexibility - its ability to carry goods (without transshipment) and passengers from door to door - while it is criticised for its externalities, chiefly emissions and noise, and the use of land for the expanding road network.

A proposal in 2003 by the European Commission⁽⁸⁾ was made to modify the Directive that fixes the framework for infrastructure charging for heavy goods vehicles suggested that charges should be levied for the cost of infrastructure and also for other external costs: it would also lower the threshold for such levies from lorries of more than 12 tonnes to those of more than 3.5 tonnes. Discussions on this proposal have considered the use to which the revenue from this levy would be put, notably, whether it is used for road transport infrastructure, other transport infrastructure, or considered as general fiscal revenue. In addition, debate also turned to whether the levy should be extended beyond lorries to other categories of road users.

Road transport service providers, like other heavy users of fuel, have faced pressure on their margins due to the sustained increase in fuel prices resulting from higher oil prices - see Subchapter 2.1.

⁽⁸⁾ COM(2003) 448.

Table 20.7

Other land transport (NACE Group 60.2)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (16.5)	Finland (174.8)	Germany (14.3)	Lithuania (195.6)
2	United Kingdom (15.6)	Hungary (148.0)	France (13.4)	Finland (161.9)
3	France (15.0)	Slovenia (138.7)	United Kingdom (12.0)	Estonia (150.4)

(1) Belgium, the Czech Republic, Denmark and Lithuania, 2001; Greece, Ireland and Poland, not available.

(2) Belgium, the Czech Republic, Denmark, Greece, France, Ireland, Cyprus, Lithuania and Poland, not available.

(3) Belgium, Denmark, France and Lithuania, 2001; Greece, Ireland and Poland, not available.

(4) Belgium, Denmark, France and Lithuania, 2001; Greece, Ireland, Cyprus and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

Road and other land transport (NACE Group 60.2) generated value added of EUR 130.7 billion in 2002 in the EU-25, some 3.7 times more than rail transport. As such, road and other land transport created close to two fifths (38.8 %) of all value added generated by transport services (NACE Divisions 60 to 63) and 5.0 % of non-financial services (NACE Sections G to I and K) value added. Employment in this sector in the EU-25 was 4.3 million in 2002 and as such provided more than half (51.8 %) of the transport services' workforce.

Unsurprisingly, the larger Member States contributed the greatest shares of EU-25 value added in this sector. Road and other land transport accounted for more than 6.0 % of non-financial services value added in Spain (6.9 %) and in Italy (6.2 %), while in France (5.1 %, 2001) it was close to the EU-25 average; Germany (4.3 %) and the United Kingdom (3.5 %) were well below the EU-25 average. The Member States⁽⁹⁾ where road and other land transport generated the highest shares of non-financial services value added were Lithuania (9.7 %), Finland (8.8 %), Hungary (7.5 %), Denmark (7.4 %), Slovenia (7.0 %) and Austria (6.6 %). In contrast, the road and other land transport sector was notably smaller in relative terms in Malta, where it accounted for only 2.0 % of the value added created in non-financial services. In addition, available data also suggest a similar situation in Cyprus, where road and other land transport represented only 2.5 % of the total value added for NACE Sections G to I in 2002, while the corresponding EU-25 average was 8.1 %.

⁽⁹⁾ Denmark, France and Lithuania, 2001; Ireland, Cyprus and Poland, not available.

Within road and other land transport services, by far the largest subsector was road freight transport (NACE Class 60.24). Alone it accounted for almost two thirds (64.4 %) of the value added created by the EU-25's road and other land transport sector, the remainder being generated by other passenger land transport activities. The sectoral share of freight rose as high as 87.0 % in the Czech Republic (2001) and 85.8 % in Estonia, with the Benelux countries, Slovenia, Italy, Sweden and Spain all reporting shares in excess of 70 %⁽¹⁰⁾. In contrast, road and other land passenger transport services generated more than half of the value added in Slovakia, as well as Cyprus and Malta (these latter two Member States have no rail network and a relatively large tourist sector).

A notable characteristic of road and other land transport is the role played by micro and small enterprises - see Table 20.8 overleaf. Enterprises with less than 50 persons employed generated 56.1 % of the sector's value added in 2001 in the EU-25, which was 20.3 percentage points above the corresponding average for all transport services (35.9 %). Despite this dominance of micro and small enterprises, there was also a relatively high proportion of medium-sized enterprises (with 50 to 249 persons employed) which contributed 17.8 % of total value added in the road and other land transport sector compared with an average of 16.0 % for all transport services. As such, it was large enterprises (those with 250 or more persons employed) that played a relatively small role in the road and other land transport sector, contributing just over a quarter (26.1 %) of sectoral value added, compared with nearly a half (48.2 %) for all transport services.

⁽¹⁰⁾ Belgium, the Czech Republic, Denmark and Lithuania, 2001; Greece, Ireland and Poland, not available.

Table 20.8

Other land transport (NACE Group 60.2)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	28.6	35.2
Small enterprises	27.5	24.7
Medium-sized enterprises	17.8	15.6
Large enterprises	26.1	24.5

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

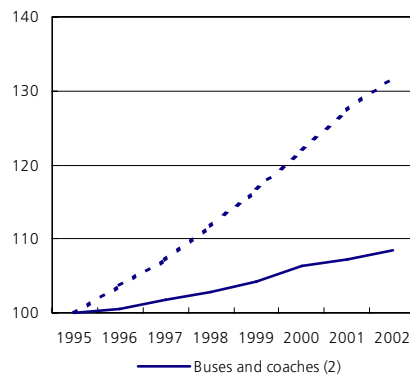
When analysing statistics on road transport traffic volumes it is important to bear in mind that this includes own account transport as well as transport services marketed to clients - see Box 20.1 on page 319.

Figure 20.8 highlights the growth in the stock of road transport vehicles, namely buses, coaches and road freight vehicles; road freight vehicles in particular have seen very strong growth. An analysis of the growth in the number of buses and coaches between 1995 and 2002 shows that the highest growth was recorded in some of the smaller Member States, notably Ireland, Portugal and Luxembourg, while the largest declines were in the three Baltic States, Slovenia, Hungary and Slovakia. Apart from Ireland, the stock of road freight vehicles shows a very different picture, with high increases recorded in the Czech Republic, Latvia, Ireland and Poland.

The volume of traffic is shown in Figure 20.9 for the main land passenger services. The volume of passenger transport by bus and coach was 485.1 billion passenger-kilometres in the EU-25 in 2002 compared with 57.3 billion passenger-kilometres for tram and metro (excluding Estonia and Poland). Between 1995 and 2003 Lithuania (-52.0%), Slovenia (-49.7%) and Slovakia (-26.4%) all experienced a strong fall in the volume of transport by bus and coach. In contrast, Latvia (28.3%), Austria (27.6%), Spain (26.4%) and Ireland (23.3%) all experienced high growth. The use of trams and metros increased in nearly all Member States (that have these modes of transport) between 1995 and 2002. The fastest growth was in Greece where the number of passenger kilometres by tram and metro increased from 740 million in 1995 to 1.35 billion in 2002, an overall increase of 82.4%. Finland, Spain, France and the United Kingdom also experienced strong growth in these means of transport.

Figure 20.8

Evolution of the stock of road transport vehicles, EU-25 (1995=100) (1)



(1) 2002, estimates; excluding Northern Ireland.

(2) Excluding Cyprus and Malta.

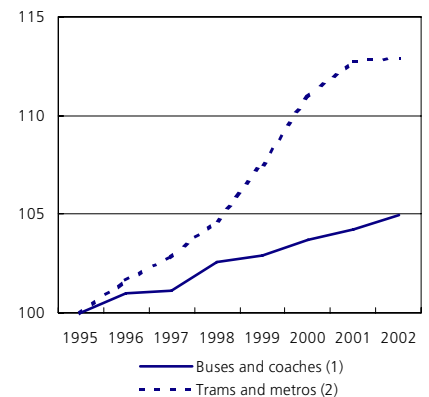
Source: Eurostat; CCFA; ACEA; national statistics in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Turning to the level of these modes of passenger transport, rather than developments over time, the importance of tram and metro transport in the Czech Republic stands out: in 2002 tram and metro traffic reached 8.2 billion passenger-kilometres, comparable to the level in Germany and the United Kingdom, and only one fifth smaller than in France. Equally the use of trams and metros was very high in Austria relative to its population.

Table 20.9 shows the development of road freight transport over the last few years. In 2002 national and international road haulage by EU registered vehicles was 1 554 billion tonne-kilometres, more than four times the traffic transported by rail in the EU-25. Collectively the five largest Member States accounted for 66.3% of this total, considerably lower than their share of GDP for example, and also lower than their share of value added in the road and other land transport sector. Of the larger Member States, only Spain had a high use of road freight transport relative to its GDP. Comparing each Member State's share of the EU-25's road freight transport traffic with its share of the EU-25 GDP shows a relatively high use of road freight transport in Malta, Slovakia, the Baltic States, the Czech Republic, Luxembourg and Poland.

Figure 20.9

Evolution of passenger land transport (passenger-kilometres), EU-25 (1995=100)



(1) Excluding Cyprus and Malta; 2002, estimates for some countries; the Netherlands, including tram and metro; Poland and Slovakia, only inter-urban traffic; the United Kingdom, excluding Northern Ireland. (2) Excluding Estonia and Poland; France, metro and RER; the United Kingdom, excluding Northern Ireland.

Source: Eurostat; ECMT; UITP in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Table 20.9

Road freight transport traffic; national and international haulage by vehicles registered in the country (billion tonne-kilometres)

	1999	2000	2001	2002	2003
EU-25	1 486.3	1 516.3	1 554.2		
BE	51.0	53.2	52.9	50.5	
CZ	37.0	37.3	39.1	43.7	46.5
DK	23.2	24.0	22.2	22.5	23.0
DE	278.4	280.7	289.0	285.2	290.8
EE	3.7	3.7	4.7	4.4	6.4
EL (1)	21.4	21.5	21.5	21.5	21.5
ES	148.7	161.0	184.5	192.6	
FR	204.7	204.0	206.9	204.4	203.6
IE	10.2	12.3	12.3	14.3	15.7
IT	177.3	184.7	186.5	192.7	
CY	1.2	1.2	1.3	1.3	1.4
LV	4.2	4.8	5.4	6.2	6.8
LT	7.7	7.8	8.3	10.7	11.5
LU	6.3	7.6	8.7	9.2	9.6
HU	18.6	19.1	18.5	17.1	18.2
MT (1)	3.6	3.7	3.7	3.7	
NL	83.6	79.6	78.5	77.4	
AT	34.2	35.1	37.5	38.5	39.6
PL	70.5	72.8	74.4	74.7	
PT	26.1	26.8	30.0	29.7	
SI	4.2	5.3	5.5	4.6	4.7
SK	18.5	21.4	20.2	22.3	25.7
FI	29.7	32.0	30.5	32.0	30.9
SE	33.2	35.6	34.2	36.7	36.6
UK	166.3	165.6	163.3	164.0	167.1

(1) Estimates.

Source: Eurostat; ECMT; UITP in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

EMPLOYMENT CHARACTERISTICS

A typical characteristic of road and other land transport services is the low proportion of paid employees in the workforce, in other words, the high importance of working proprietors and unpaid family workers. In 2002, paid employees represented 78.8 % of the sector's workforce in the EU-25, some 7.3 percentage points below the average for transport services. The low incidence of paid employees⁽¹¹⁾ was particularly evident in Malta (39.5 %) and in Cyprus, relative to the incidence of paid employees in all transport services.

PRODUCTIVITY AND PROFITABILITY

Average personnel costs faced by road and other land transport enterprises were below the average for transport services at EUR 25 600 per employee in the EU-25 in 2002. A similar situation was observed in all Member States⁽¹²⁾ except Cyprus, where average personnel costs for the road and other land transport sector were EUR 1 000 higher than the transport services average.

⁽¹¹⁾ Belgium, the Czech Republic, Denmark, France and Lithuania, 2001; Greece, Ireland and Poland, not available.

⁽¹²⁾ Belgium, the Czech Republic, Denmark, France and Lithuania, 2001; Greece, Ireland and Poland, not available.

20.3: WATER TRANSPORT

This subchapter covers all water transport activities included in NACE Division 61, both sea and coastal transport (NACE Group 61.1) and inland water transport (NACE Group 61.2).

It also provides some information on water transport infrastructure (navigable waterways, harbours and piers); in NACE these activities that are related to the operation of infrastructure are classified as part of auxiliary transport activities. For information on ports see Subchapter 20.5.

Maritime freight shipping is made up of line (generally scheduled services) and tramp shipping, with a distinction between tankers (liquid and gas) and bulk carriers, and between containerised and general cargo. As well as freight, maritime transport also covers passenger transport, for example, scheduled ferry services and cruises.

Table 20.10

Other land transport (NACE Group 60.2)

Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Belgium (46.3)	Belgium (35.9)	Latvia (199.1)	Malta (34.5)
2	Luxembourg (43.6)	Luxembourg (33.3)	Lithuania (185.3)	Denmark (24.1)
3	Austria (43.2)	Netherlands (33.3)	Malta (161.2)	Spain (24.0)

(1) Belgium, the Czech Republic, Denmark, France and Lithuania, 2001; Greece, Ireland and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Wage adjusted labour productivity, measured as the ratio between value added and personnel costs (after adjusting the latter for the ratio of paid employees to persons employed) was 119.8 % in the EU-25 in 2002, which was 14.9 percentage points below the average for transport services. However, when this relatively low wage adjusted labour productivity ratio for the road and other land transport sector is broken down into more detail, it is revealed that the ratio was 134.5 % for road freight transport and just 100.3 % for road and other land passenger transport. Indeed, several Member States reported very high wage adjusted labour productivity ratios in the road freight transport subsector, notably the Baltic States and Slovakia (all over 200 %),

with the ratio rising as high as 418.8 % in Latvia. In all cases, the wage adjusted labour productivity ratios for road freight transport was higher than the level reached for transport services as a whole. In the road and other land passenger transport subsector nine of the 22 Member States⁽¹³⁾ with data available had a wage adjusted labour productivity ratio below 100 %, which means that average personnel costs were higher than value added per person employed. The most extreme situation was in the Czech Republic, where the ratio was 9.5 %, while in Estonia it was 54.0 %.

⁽¹³⁾ Belgium, the Czech Republic, Denmark, France and Lithuania, 2001; Greece, Ireland and Poland, not available.

Table 20.11

Water transport (NACE Division 61)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (26.8)	Denmark (557.7)	Germany (16.5)	Luxembourg (547.5)
2	United Kingdom (17.6)	Finland (316.3)	Italy (13.6)	Finland (515.3)
3	Denmark (11.9)	Lithuania (244.6)	United Kingdom (10.6)	Denmark (465.6)

(1) Belgium, the Czech Republic, 2001; Greece, Ireland, Poland and Slovakia, not available.

(2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Poland and Slovakia, not available.

(3) France, 2001; Greece, Ireland, the Netherlands, Poland and Slovakia, not available.

(4) France, 2001; Greece, Ireland, Cyprus, the Netherlands, Poland and Slovakia, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

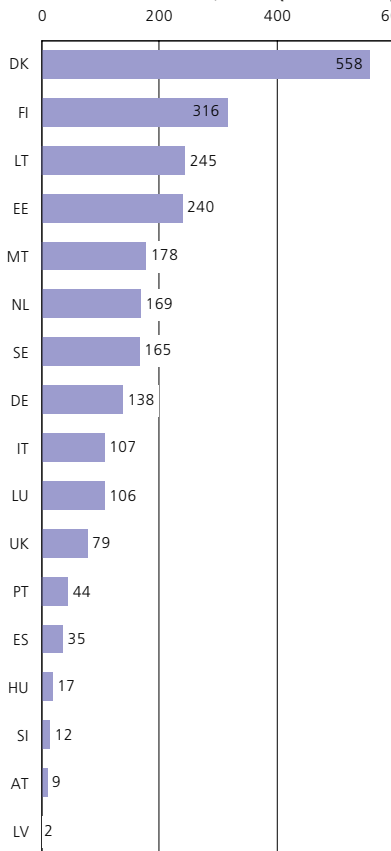
The EU is dependent on maritime transport for its external trade: 55.5 % of EU-25 imports and 38.3 % of EU-25 exports in volume terms were transported by sea in 2003. Over several decades the sector has changed significantly with mergers, containerisation, and an extensive recourse to flags of convenience, whereby vessels controlled by shipowners in one country are in fact registered in another

country that is more attractive in terms of taxation, social legislation and safety or environmental standards.

Maritime transport market liberalisation is complete and most recent EU initiatives in this area have concerned living and working conditions, safety and pollution prevention.

Figure 20.10

Water transport (NACE Division 61)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Poland and Slovakia, not available.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 20.12

Merchant fleet, EU-25, 2003 (1)

	Number of ships (units)	Tonnage (million DWT)
Total fleet controlled	9 258	274
National flag	3 342	89
Foreign flag	5 916	186

(1) Ships of 1 000 GRT and over, as of 1 January 2003; including international registers like the Danish International Ship Register; including vessels registered at territorial dependencies.
Source: ISL based on the Lloyd's Maritime Information System, in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

STRUCTURAL PROFILE

Within transport services, water transport services (NACE Division 61) was the smallest NACE division in terms of value added. In 2002 value added in this sector in the EU-25 was EUR 16.6 billion, which represented 4.9 % of the wealth created in all transport services (NACE Divisions 60 to 63). Employment in the water transport services sector was 174 400 persons in the EU-25 in 2002, which represented 2.1 % of the transport services' total, less than half the contribution of this sector in terms of value added.

Sea and coastal transport (NACE Group 61.1) dominated the water transport services sector, with 76.9 % of employment and 87.7 % of value added in the EU-25 in 2002, the remainder accounted for by inland water transport (NACE Group 61.2).

Table 20.13

Main EU container service maritime operators, 2004

Company	Country	TEU in service	World (1) ranking
AP Moller Group (2)	DK	900 509	1
Mediterranean Shipping Co	IT, CH	618 025	2
P&O Nedlloyd (3)	NL, UK	426 996	4
CMA - CGM (4)	FR	373 191	5
Hapag-Lloyd	DE	186 610	17
Hamburg Sud (5)	DE	131 713	20

(1) Twenty foot equivalent unit.
(2) Including Maersk Sealand, Portlink and Safmarine.
(3) Including Farrell Lines and Mercosul Line-Oceanica AGW.
(4) Including ANL and Feeder Associates, Ybarra CGM and MacAndrews.
(5) Including Alianca, Columbus Line and CAT and Ellermans.
Source: Containerisation Yearbook in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Naturally, some countries reported a much greater reliance on water transport services than others, because of geographical, climatic or historical reasons. In particular, as much as one fifth of transport services' activity was in the water transport services sector in Denmark (20.9 %) in value added terms, and in Cyprus (15.4 %) and Finland (11.2 %) relatively high shares were also recorded. In contrast, all of the Member States with no coastlines, with the exception of Luxembourg (which has a relatively large inland water transport subsector), reported only limited activity within the water transport services sector. Conversely, some countries with important coastlines also reported relatively low degrees of specialisation in water transport services, in particular Spain and France which generated less than 2 % of their transport services value added in this sector. Consequently, while the two Member States⁽¹⁴⁾ with the largest water transport services sectors (in value added terms) were both large, namely Germany (26.8 % of the EU-25 total) and the United Kingdom (17.6 %), Denmark was the third largest (11.9 %), ahead of Italy (10.8 %), and the Netherlands (9.8 %). Danish specialisation in this sector was almost exclusively (99.2 %) in sea and coastal transport – Table 20.13 shows that the EU-25's largest maritime container transporter was Danish. In contrast, the water transport services sector in the Netherlands was split more evenly: 56.3 % of value added was created within the sea and coastal transport subsector and 43.7 % by inland water transport services.

(14) Belgium and the Czech Republic, 2001; Greece, Ireland, Poland and Slovakia, not available.

Table 20.14 and Table 20.15 show the development of sea transport, both for passengers and for freight. The total movement of goods, both inward and outward reached 3 240 million tonnes in the EU ⁽¹⁵⁾ in 2001. The United Kingdom accounted for the largest share of sea transport, 17.2 % of the EU-25 total, followed by Italy (14.1 %) and the Netherlands (12.8 %). Only in the Baltic States and Poland did the outward volume of sea transport exceed the inward volume, with Cyprus having by far the highest ratio of inward to outward sea freight transport. In terms of EU passenger sea transport, the total number of passengers was 412.6 million in 2003, of which Greece (24.9 %) and Italy (20.0 %) provided by far the largest shares. The Nordic trio of Denmark (11.8 %), Sweden (7.9 %) and Finland (4.0 %) also contributed relatively high shares.

⁽¹⁵⁾ Excluding Malta.

Table 20.14
Seaborne transport of goods (million tonnes)

	Inward				Outward			
	2000	2001	2002	2003	2000	2001	2002	2003
EU-25 (1)	:	:	2 052.7	:	:	:	1 187.4	:
BE	110.9	107.0	104.6	103.9	68.4	67.2	69.2	77.2
CZ	-	-	-	-	-	-	-	-
DK	52.9	51.7	50.4	56.9	43.7	42.3	43.9	47.0
DE	152.2	156.5	153.9	159.2	90.3	89.6	92.4	95.6
EE	:	3.8	3.7	4.7	:	36.6	41.0	42.4
EL	75.3	63.4	59.5	:	52.5	49.1	51.6	:
ES	171.6	229.4	241.0	249.6	63.3	85.7	85.0	94.1
FR	243.9	231.8	232.8	237.3	92.6	86.4	86.2	92.9
IE	31.7	32.6	32.2	33.2	13.6	13.2	12.7	12.9
IT	315.2	318.4	322.8	334.8	131.5	126.4	135.1	142.2
CY	:	:	5.6	5.7	:	:	1.6	1.8
LV	:	2.5	3.3	3.8	:	54.3	48.7	50.9
LT	:	3.5	3.8	4.1	:	17.5	20.6	26.1
LU	-	-	-	-	-	-	-	-
HU	-	-	-	-	-	-	-	-
MT	:	:	:	:	:	:	:	:
NL	315.9	317.3	318.1	318.5	90.0	88.5	95.2	91.8
AT	-	-	-	-	-	-	-	-
PL	:	14.7	14.9	15.2	:	31.5	33.2	35.8
PT	43.8	43.8	42.8	42.8	12.6	12.4	12.8	14.7
SI	:	6.7	6.7	7.7	:	2.5	2.6	3.1
SK	-	-	-	-	-	-	-	-
FI	41.1	50.7	51.5	57.4	39.6	45.4	47.6	47.1
SE	86.8	82.9	84.1	88.6	72.5	69.9	70.5	72.9
UK	316.3	328.9	320.8	323.8	256.7	237.5	237.5	231.9

(1) Excluding Malta.

Source: Eurostat, Transport, Maritime transport

Table 20.15
Seaborne transport of passengers (thousands)

	Inward				Outward			
	2000	2001	2002	2003	2000	2001	2002	2003
EU-25	:	:	:	209 924	:	:	:	202 656
BE	764	689	550	371	756	689	575	369
CZ	-	-	-	-	-	-	-	-
DK	25 958	23 994	24 090	24 358	25 872	23 868	24 088	24 294
DE	15 719	15 985	16 749	16 036	15 659	15 832	16 473	16 110
EE	:	3 285	5 136	5 172	:	2 455	0	0
EL	14 040	25 116	50 637	51 459	13 827	25 009	50 546	51 300
ES	7 924	9 839	10 132	10 782	6 659	8 784	8 814	9 259
FR	13 956	13 888	14 566	13 700	13 887	13 836	14 544	13 705
IE	2 094	1 940	1 935	1 874	2 124	1 955	1 958	1 872
IT	43 215	43 438	41 394	41 287	43 161	43 444	41 306	41 289
CY	:	:	169	144	:	:	170	143
LV	:	26	11	57	:	0	12	61
LT	:	53	55	68	:	48	52	67
LU	-	-	-	-	-	-	-	-
HU	-	-	-	-	-	-	-	-
MT	:	:	:	71	:	:	:	69
NL	1 003	1 019	1 104	1 024	1 001	1 022	1 098	990
AT	-	-	-	-	-	-	-	-
PL	:	2 220	1 718	1 617	:	2 197	1 587	1 572
PT	268	273	251	306	267	269	251	310
SI	:	17	21	23	:	17	21	24
SK	-	-	-	-	-	-	-	-
FI	8 008	8 405	8 336	8 216	7 956	8 324	8 241	8 125
SE	18 457	16 201	16 164	16 545	18 116	16 149	15 948	16 203
UK	16 867	17 225	17 835	16 814	16 985	17 291	17 788	16 894

Source: Eurostat, Transport, Maritime transport

Table 20.16

**Water transport (NACE Division 61)
Labour force characteristics, 2004**

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (services=100) (1)	Proportion of those employed (%) (2)	Index (services=100) (2)	< 25 years (3)	25-49 years (4)	50+ years (5)
EU-25	83.0	149.4	94.0	117.2	:	59.4	:
BE	78.3	133.0	100.0	127.3	:	62.2	36.6
CZ	100.0	186.9	100.0	106.2	:	60.6	30.6
DK	63.7	107.2	87.1	117.2	:	50.5	35.0
DE	78.9	151.6	96.6	131.3	:	50.9	42.3
EE	85.3	164.5	100.0	109.9	:	:	:
EL	89.5	147.4	97.7	101.7	:	59.1	33.2
ES	87.4	155.7	97.4	108.2	:	52.4	36.1
FR	69.2	123.0	100.0	118.0	:	80.1	:
IE	83.5	154.3	95.8	121.5	:	75.6	:
IT	87.2	146.7	96.9	115.0	10.6	73.9	20.7
CY	38.3	72.3	100.0	109.2	:	69.8	:
LV	95.3	187.9	100.0	110.3	:	61.2	:
LT	:	:	:	:	:	:	:
LU	:	:	:	:	:	:	:
HU (6)	100.0	188.4	:	:	:	:	:
MT	:	:	:	:	:	:	:
NL	80.9	139.8	78.0	141.8	:	63.4	:
AT	:	:	:	:	:	:	:
PL	100.0	186.7	90.0	100.2	:	59.6	40.4
PT	:	:	:	:	:	:	:
SI (7)	85.2	161.5	100.0	105.7	:	:	:
SK	90.9	178.4	95.0	98.4	:	:	:
FI	68.5	127.7	97.3	117.0	:	60.3	27.6
SE	73.5	124.1	86.7	113.7	:	50.0	38.5
UK	79.7	143.1	91.1	128.4	:	53.4	30.9

(1) Estonia and Cyprus, 2002. (2) Estonia, 2003. (3) Italy, 2002. (4) Cyprus, 2002. (5) Belgium, the Czech Republic and Denmark, 2003. (6) 2003. (7) 2002.
Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

The gender split of the water transport services workforce shows that it was largely composed of men, who represented 83.0 % of those employed in the EU-25 in 2004, a share that was much higher than the average for services (NACE Sections G to K) of 55.6 %. Another typical employment characteristic of the water transport services sector was the high prevalence of full-time work that concerned 94.0 % of the EU-25's workforce in 2004, against 80.3 % in services as a whole.

PRODUCTIVITY AND PROFITABILITY

Water transport services were characterised by relatively high average personnel costs, though these were matched by high apparent labour productivity. According to structural business statistics data, each employee cost on average EUR 39 900 in the EU-25 in 2002, around 30 % more than the average level for all transport services. To some respect this may reflect the high proportion of full-time employees in this sector. It can be noted that average personnel costs in the EU-25 were significantly higher for

Table 20.17

**Water transport (NACE Division 61)
Labour productivity and personnel costs, EU-25, 2002**

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Water transport	95.3	238.9	39.9
Sea and coastal water transport	108.6	256.3	42.4
Inland water transport	50.8	167.1	30.4

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

the sea and coastal transport subsector (EUR 42 400 per employee) than for inland water transport (EUR 30 400), although this was not the case in all Member States.

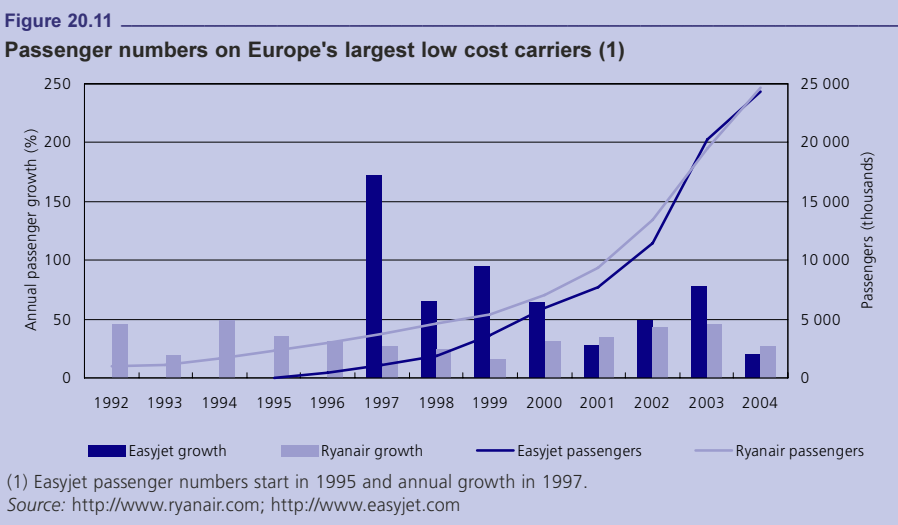
Nevertheless, because of the high figures for value added per person employed, wage adjusted labour productivity ratios were significantly higher than the transport services average. The average value added generated by each person employed in the water transport services sector represented as much as 238.9 %

of average personnel costs per employee in the EU-25 in 2002, while the corresponding ratio for transport services was 134.7 %. This means that the water transport services sector had one of the highest wage adjusted labour productivity ratios of any NACE division within the services sector in 2002. While the sea and coastal transport subsector contributed most, with a wage adjusted labour productivity ratio of 256.3 % in 2002, the ratio for the inland water transport subsector (167.1 %) was also above the transport services average.

20.4: AIR TRANSPORT

The air transport sector comprises enterprises engaged in the transport of passengers and freight by air on scheduled (NACE Group 62.1) as well as unscheduled services (NACE Group 62.2). Space transport activities (NACE Group 62.3), which essentially include the launching of satellites and space vehicles are also covered by the air transport sector. For information on airports see Subchapter 20.5.

Growth in EU air traffic has occurred in a climate of market liberalisation and structural change, with an increased number of operators. It is widely expected that this will be followed by a period of rationalisation, both among the traditional carriers and the low cost carriers that now number approximately 60 within the EU.



The development of low cost carriers has expanded the market for air travel, by offering the possibility of relatively cheap flights for the leisure market. Low costs have been achieved through the implementation of a number of business practices, for example, Internet sales, ticket-free travel, eliminating or charging for in-flight services, single aircraft type fleets, reduced turnaround times at airports, using airports further from main cities. Figure 20.11 shows the recent development of passenger numbers for the two largest low cost carriers in Europe. Further growth in passenger numbers for individual airlines may come through competition between airlines or expansion into new markets. While facing the prospect of an increased level of competition, the sector has also had to face increasing fuel costs (see Subchapter 2.1 concerning the cost of oil), as well as new rules in 2004 on passenger compensation ⁽¹⁶⁾. However,

⁽¹⁶⁾ Regulation (EC) No 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights.

Table 20.18
Air transport (NACE Division 62)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (35.7)	Malta (1 260.1)	United Kingdom (22.1)	Malta (520.5)
2	France (15.4)	Luxembourg (596.4)	France (17.9)	Luxembourg (433.9)
3	Netherlands (9.0)	Portugal (203.2)	Germany (11.4)	Finland (220.6)

(1) Belgium, the Czech Republic, 2001; Greece, Ireland, Poland and Slovakia, not available.
 (2) Belgium, the Czech Republic, Greece, France, Ireland, Cyprus, Poland and Slovakia, not available.
 (3) France, 2001; Greece, Ireland, the Netherlands, Poland and Slovakia, not available.
 (4) France, 2001; Greece, Ireland, Cyprus, the Netherlands, Poland and Slovakia, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 20.19
International passenger numbers embarked and disembarked (thousands)

	1993	1998	2003
BE	10 029	18 479	15 085
CZ	:	:	7 600
DK	9 610	:	17 969
DE	61 471	85 188	99 943
EE	:	:	695
EL	17 317	:	23 207
ES	45 051	68 768	88 925
FR	40 715	56 102	69 584
IE	5 555	13 275	19 197
IT	23 680	:	49 436
CY	:	:	6 077
LV	:	:	712
LT	:	:	721
LU	1 052	1 487	1 449
HU	:	:	5 010
MT	:	:	2 604
NL	20 864	34 652	41 014
AT	8 506	12 732	15 251
PL	:	:	:
PT	8 207	11 585	14 886
SI	:	:	:
SK	:	:	594
FI	:	:	7 816
SE	5 212	13 796	13 567
UK	:	:	153 530

Source: Eurostat, Transport, Air transport

the expansion of air traffic has faced criticism, notably because of the high levels of emissions and noise from this means of transport, although emissions have grown more slowly than air traffic volumes due to technological improvements. In September 2005, the Commission proposed a strategy to curb greenhouse gas emissions from air travel which includes a recommendation that aviation emissions should be included in the EU Emissions Trading Scheme.

STRUCTURAL PROFILE

The air transport sector (NACE Division 62) in the EU-25 contributed an 8.0 % share of transport services' (NACE Divisions 60 to 63) value added (in 2002), some EUR 30.0 billion. Total employment in the air transport sector was 411 100 persons in 2002, which represented 5.0 % of the transport services' workforce. More than one third (35.7 %) of the EU-25's value added, EUR 9.6 billion, was

generated in the United Kingdom alone ⁽¹⁷⁾. France contributed 15.4 % of EU-25 value added but there was no other Member State with a share in excess of 10 %, while Germany recorded negative value added in this sector for the second consecutive year. In relative terms, however, Malta appeared as the most specialised country in the air transport sector. In Malta, air transport represented as much as 44.4 % of transport services value added. In Luxembourg too, the air transport sector was relatively large, accounting for 34.2 % of value added in transport services.

⁽¹⁷⁾ Belgium and the Czech Republic, 2001; Estonia, Greece, Ireland, Poland and Slovakia, not available.

Table 20.20

Passenger traffic - selected airlines, 2004

		Total passenger traffic (million passenger- kilometres)	Annual growth, 2003-2004 (%)
Lufthansa	DE	109 495	13.3
Air France	FR	107 364	8.3
British Airways	UK	106 764	5.9
KLM	NL	63 113	11.6
Iberia	ES	45 765	9.1
Alitalia	IT	34 572	10.0
Virgin Atlantic	UK	30 223	12.2
SAS	DK	25 410	8.3
Austrian Airlines	AT	21 277	18.4
Finnair	FI	15 453	16.8

Source: AEA

Table 20.21

Scheduled passenger traffic - selected regional airlines, 2004

	Total passenger traffic (million passenger- kilometres)	Annual growth, 2003- 2004 (%)
Lufthansa CityLine	3 936	-2
Air Nostrum	1 996	12
Régional	1 895	11
Tyrolean Airways	1 840	13
Aegean Airlines	1 758	38
Brit Air (+ Air France)	1 740	0
KLM Cityhopper	1 517	-3
Eurowings	1 402	10
KLM Cityhopper UK Ltd	1 303	-5
Alitalia Express	941	53

Source: ERA - European Regions Airline Association, available at <http://www.eraa.org>

PRODUCTIVITY AND PROFITABILITY

Average personnel costs were significantly higher in the air transport sector than in the other transport services' NACE divisions; the only exceptions to this observation were Lithuania and Malta. In the EU-25, enterprises in the air transport sector faced average personnel costs of EUR 55 300 per employee in 2002. This was more than 80 % higher than the average of EUR 30 400 per employee recorded for all transport services. These high figures for average personnel costs were only partly compensated for by higher apparent labour productivity. This was reflected in wage adjusted labour productivity ratios that were generally below the transport services average. In the EU-25, value added per person employed in the air transport sector in 2002 was only 18.7 % above the average level of personnel costs per employee. As such, the EU-25 wage adjusted labour productivity ratio for air transport services was 16.0 percentage points below the average for all transport services. However, in several Member States the ratio for air transport services was above the transport services average, notably in Malta (1 453 %), but also in Luxembourg, the United Kingdom, Lithuania, Slovenia, Portugal and Belgium (2001)⁽¹⁸⁾. In contrast, a negative wage adjusted labour productivity ratio was recorded in air transport services in Germany in 2002 for the second consecutive year, reflecting the negative value added in this sector (noted above).

⁽¹⁸⁾ Belgium and France, 2001; the Czech Republic, Greece, Ireland, the Netherlands, Poland and Slovakia, not available.

The air transport sector was dominated by medium-sized and large enterprises, as enterprises employing less than 50 persons accounted for just 4.9 % of the sector's value added in the EU-25 in 2002. This was eight times less than the corresponding share for transport services as a whole.

Turning to traffic figures, air transport has experienced rapid growth over the past decades, despite short-term fluctuations in activity caused by macro-economic cycles or external factors. Table 20.19 (on the previous page) shows the number of international passengers (therefore excluding passengers on domestic flights) for the Member States, while Table 20.20 and Table 20.21 show the volume of passenger traffic on a selection of airlines represented by the Association of European Airlines (AEA) and by the European Regions Airline Associations (ERA).

EMPLOYMENT CHARACTERISTICS

A typical characteristic of the labour force in the air transport services sector, similar to railways, was the almost exclusive presence of paid employees. Indeed, according to structural business statistics, 98.4 % of the persons employed in EU-25 air transport enterprises in 2002 were employees.

Contrary to the situation in the other transport services' activities, the air transport workforce boasted a relatively high proportion of women. They accounted for 40.5 % of total employment in the air transport services sector in the EU-25 in 2004, while the average for transport services as a whole was 20.9 %. The proportion of women working in this sector was, nevertheless, still below the services' (NACE Sections G to K) average of 44.4 %. A greater recourse to part-time work was recorded, as 86.7 % of the air transport workforce was in full-time employment in the EU-25 in 2004, which was the lowest share among the transport NACE divisions.

Table 20.22

Air transport (NACE Division 62)

Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (services=100) (1)	Proportion of those employed (%) (2)	Index (services=100) (2)	< 25 years (3)	25-49 years (4)	50+ years (5)
EU-25	59.5	107.1	86.7	108.0	:	74.3	:
BE	57.3	97.3	82.1	104.5	:	82.0	15.8
CZ	62.8	117.3	100.0	106.2	20.0	51.8	28.2
DK	48.4	81.4	95.3	128.3	:	74.4	:
DE	59.4	114.2	83.7	113.8	8.4	73.9	17.7
EE	:	:	:	:	:	:	:
EL	66.9	108.9	100.0	104.0	:	71.1	:
ES	64.2	114.3	90.6	100.6	8.8	71.9	23.5
FR	54.2	96.3	85.7	101.0	8.1	75.0	23.1
IE	62.5	115.5	90.5	114.7	:	73.7	:
IT	73.6	123.9	93.1	110.4	:	72.0	25.9
CY	55.8	105.2	97.7	106.7	:	72.9	18.2
LV	:	:	100.0	110.3	:	:	:
LT	:	:	:	:	:	:	:
LU	76.8	129.6	92.9	109.7	:	84.7	20.3
HU	73.5	136.8	100.0	105.6	:	77.1	27.4
MT	88.7	127.6	92.6	104.6	:	74.9	:
NL	65.8	113.8	66.5	121.0	:	84.0	11.3
AT	61.6	122.5	92.1	123.8	:	81.1	:
PL	:	:	100.0	111.3	:	89.8	:
PT	62.5	112.3	97.9	105.2	:	74.8	:
SI	81.4	154.4	87.0	92.4	:	81.8	:
SK	:	:	:	:	:	:	:
FI	45.1	84.0	87.4	105.1	:	71.6	:
SE	55.5	93.6	84.4	110.7	:	81.0	27.9
UK	49.5	88.8	85.7	120.7	:	70.2	20.4

(1) Greece, 2003; Malta and Slovenia, 2002. (2) Malta and Slovenia, 2003. (3) Spain, 2003; France, 2002. (4) Malta and Slovenia, 2002. (5) Luxembourg and the United Kingdom, 2003; Hungary and Sweden, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

20.5: AUXILIARY TRANSPORT ACTIVITIES

This subchapter includes information on auxiliary and supporting transport activities as covered by NACE Groups 63.1, 63.2 and 63.4, hereafter referred to as auxiliary transport services. Note that travel agencies are covered in Subchapter 19.1.

The activities covered by this subchapter are very diverse: they include a number of support services for all modes of transport, such as baggage and cargo handling, storage/warehousing, and freight forwarding/brokerage. Note that these activities may be provided by enterprises with their principal activity in auxiliary transport activities or by enterprises classified to other activities, often transporters or wholesalers (in which case they will not be included in the structural business statistics data described below). Auxiliary and supporting transport activities include the operation of terminals (rail and bus stations, ports and airports) and infrastructure (notably for inland waterways, railways, roads, tunnels and bridges), as well as the provision of navigational services (notably for air and water transport), towing, berthing and parking services (including car parks).

STRUCTURAL PROFILE

The auxiliary transport services (NACE Groups 63.1, 63.2 and 63.4) constitute a significant part of the transport services (NACE Divisions 60 to 63) sector, and collectively they generated EUR 104.4 billion of value added in the EU-25 in 2002, which equated to 3.0 % of the total wealth created in the transport services sector, 7.8 percentage points less than the share of road and other land transport. Auxiliary transport activities were an important employer within the transport services' sector, with 1.9 million persons employed in the EU-25 in 2002; this represented some 22.8 % of the transport services total.

The four largest Member States collectively accounted for over 70 % of the EU-25's value added in this sector in 2002, compared to a 64.0 % share for the same Member States in all transport services; Germany (24.7 % of EU-25 value added), the United Kingdom (17.7 %), France (14.8 %) and Italy (13.1 %). In particular, Germany was relatively specialised in these activities, as auxiliary transport services contributed 41.4 % to German value added generated in all transport services, a proportion that was only exceeded in two of the Baltic States, namely Estonia (51.2 %) and Latvia (46.4 %) ⁽¹⁹⁾. At the other end of the spectrum,

⁽¹⁹⁾ Belgium and the Czech Republic, 2001; Greece and Poland, not available.

Table 20.23

Cargo handling and storage; other supporting transport activities; activities of other transport agencies (NACE Groups 63.1, 63.2 and 63.4)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (24.7)	Estonia (290.5)	Germany (23.0)	Latvia (182.0)
2	United Kingdom (17.7)	Malta (267.0)	France (15.1)	Estonia (174.9)
3	France (14.8)	Latvia (242.6)	Italy (14.9)	Malta (165.8)

(1) Belgium, the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

auxiliary transport activities contributed 9.4 % to transport services' value added in Luxembourg.

A size class breakdown for auxiliary transport activities reveals the relatively large average size of enterprises in this sector. Indeed, enterprises with 250 or more persons employed generated more than half (54.0 %) of the sector's value added in the EU-25 in 2001, and medium-sized enterprises (with 50 to 249 persons employed) generated one fifth of the total (19.1 %), leading to a combined share of 73.1 %, compared with a transport services average of 64.1 %. The share of small enterprises (with 10 to 49 persons employed) in the auxiliary transport activities sector was 17.2 %, close to the transport services average, and therefore it was micro enterprises (with 1 to 9 persons employed) that accounted for a relatively low share of value added, 9.8 % compared with 17.0 % for all transport services.

Focus on physical transport networks

While the transport services described in Subchapters 20.1 to 20.4 use transport infrastructure, infrastructure management enterprises are considered as supporting transport activities (within NACE Group 63.2). Tables 20.24 and 20.25 provide information on three of the transport networks, namely rail, road and inland waterways.

Rail transport services relied on an EU-25 network encompassing 197 800 km of track in 2003 according to the UIC, of which just over half (50.4 %) was electrified. In 2003 there were a total of 3 700 km of high speed lines (lines where trains may reach 250 km/h or more) in France, Spain, Germany, Italy and Belgium.

Table 20.24

Density of land transport networks (km/thousand km²)

	Railway networks, 2003 (1)	Motorway networks, 2002 (2)
EU-25	49.8	14.0
BE	115.3	56.6
CZ	120.5	6.6
DK	52.7	23.4
DE	101.0	33.7
EE	21.2	2.1
EL	18.3	5.6
ES	28.5	19.6
FR	53.3	18.6
IE	27.3	1.8
IT	54.1	21.5
CY	-	29.0
LV	35.1	0.0
LT	27.2	6.4
LU	106.3	56.8
HU	85.5	4.8
MT	-	0.0
NL	75.3	61.3
AT (3)	69.0	19.6
PL	63.6	1.3
PT	30.7	20.0
SI	60.6	22.5
SK	74.6	6.2
FI	17.3	1.8
SE	21.9	3.4
UK	69.9	14.8

(1) Provisional.

(2) EU-25, Estonia, Greece, Ireland, Hungary, the Netherlands, Sweden and the United Kingdom, 2001.

(3) Salzburger Lokalbahn (SLB) and Graz-Köflacher Eisenbahn (GKE): 2002 data.

Sources: International Union of Railways (UIC); Eurostat; UN *in* European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

Table 20.25

Inland waterways network (1)

	Latest year	Length in use (km)
BE	2001	1 527
CZ	2001	664
DK	2001	-
DE (2)	2000	6 754
EE	2001	30
EL	1998	6
ES	1999	70
FR	2001	5 378
IE	2001	-
IT (3)	2000	1 477
CY	2001	-
LV	2000	106
LT	2001	436
LU	1998	37
HU	2001	1 484
MT	2001	-
NL	1998	5 046
AT	2001	351
PL	2000	3 812
PT	1998	124
SI	2001	-
SK	2001	172
FI	2001	6 245
SE (4)	1998	390
UK	2001	1 153

(1) The inland waterways of Greece (Korinthos Canal), Spain (Guadalquivir), Portugal (Douro, Guadiana, Tejo) and Sweden are used by seagoing ships only.

(2) Includes 978 km of non-classified waterways, some of them not regularly used for transport.

(3) Includes Venice lagoon waterways (total 854 km).

(4) Göta canal system; only 91 km (Göta river) are regularly used for goods transport.

Source: Eurostat; UN; national statistics in European Union Energy and Transport in Figures pocketbook, Directorate-General of the European Commission for Energy and Transport, 2004

In density terms, in other words kilometres of railway line in relation to land area, the Czech Republic, Belgium, Luxembourg and Germany had the most extensive rail networks, all in excess of 100 km per thousand square kilometres - see Table 20.24. Cyprus and Malta had no rail network, and the least extensive networks by this measure were unsurprisingly found in Finland, Estonia and Sweden (the three Member States with the lowest population densities), as well as in Greece.

Table 20.26

Top 10 sea ports ranked by traffic, EU-15 (million tonnes)

		2000	2001	2002	2003
Rotterdam	NL	302.5	296.6	302.7	307.4
Antwerp	BE	116.0	114.8	113.9	126.1
Hamburg	DE	77.0	82.9	86.7	93.6
Marseille	FR	91.3	89.5	89.2	92.4
Le Havre	FR	63.9	65.4	63.8	67.4
Grimsby & Immingham	UK	52.5	54.8	55.7	55.9
Tees & Hartlepool	UK	51.5	50.8	50.4	53.8
London	UK	47.9	50.7	51.2	51.0
Algeciras	ES	:	41.1	42.2	48.3
Genoa	IT	43.8	43.1	44.4	46.9

Source: Eurostat, Transport, Maritime transport

Road transport services could count on approximately 4.7 million km of roads in the EU-25 in 2000, of which 1.2 % were motorways and a further 7.6 % highways, main or national roads. While Germany (12 000 km), France (10 200 km), Spain (9 900 km) and Italy (6 500 km) had by far the most extensive motorway networks, accounting together for nearly 70 % of the EU-25 total in 2001, Table 20.24 shows that the Benelux countries had the highest density of motorways in 2002. Note that there was no motorway network in Latvia or Malta. Also low density of motorway networks was recorded in the three least densely populated Member States (Finland, Estonia and Sweden), as well as in Poland and Ireland.

Inland waterways used for transport constituted a network of approximately 35 000 km in the EU-25 (see Table 20.25). Five Member States reported no inland waterways used for transport, namely Denmark, Ireland, Cyprus, Malta and Slovenia. Germany (6 800 km), the Netherlands (5 000 km) and Belgium (1 500 km) had the highest density of inland waterways on their territory, while Finland (6 200 km), France (5 400 km) and Poland (3 800 km) also had extensive inland waterway networks.

Focus on ports

Eight of the 10 largest EU sea ports were in the North Sea (see Table 20.26). Rotterdam (NL) was the largest of all, with 307 million tonnes of freight loaded and unloaded in 2003, almost two and a half times the volume of the next largest port, Antwerp (BE), with 126 million tonnes.

One of the main trends in this transport mode has been a switch from conventional general cargo transportation towards containers. Rotterdam was also the largest port in terms of container transport ahead of Hamburg and Antwerp.

Focus on airports

The growth experienced in air traffic has had an impact on the supporting infrastructure for air transport. For example, some major airports have reached saturation and demands for expansion are often opposed by nearby residents because of noise and pollution. In addition, airports that have reached or that are near to their capacity can not easily accept new airlines, thus putting a break on competition. Equally air traffic control systems also need to face the increase in traffic. Among the important Community measures concerning market access and infrastructure in 2004 was the adoption of the regulatory framework for a single European sky⁽²⁰⁾ and related legislation on air navigation services, the interoperability of air traffic management, and the organisation and use of airspace. The single European sky is an initiative to reform the architecture of air traffic control so that air space and navigation are organised at a European level, according to traffic flow rather than national boundaries.

⁽²⁰⁾ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky.

Table 20.27
Top 20 airports by number of passengers, EU-15 (million passengers)

		1993	1998	2003
London Heathrow	UK	:	:	63.2
Frankfurt Rhein-Main	DE	25.1	42.1	48.0
Paris Ch. de Gaulle	FR	:	:	48.0
Amsterdam Schiphol	NL	20.5	33.9	39.8
Madrid Barajas	ES	8.6	12.3	35.4
London Gatwick	UK	:	:	29.9
Roma Fiumicino	IT	9.9	12.7	25.5
München F.J. Strauss	DE	7.8	19.0	24.0
Barcelona Transoceanico	ES	3.9	7.0	22.5
Paris Orly	FR	:	:	22.4
Manchester Ringway Intl	UK	:	:	19.5
Palma de Mallorca	ES	9.0	13.4	19.1
London Stansted	UK	:	:	18.7
København Kastrup	DK	9.6	:	17.7
Milano Malpensa	IT	2.8	4.4	17.5
Dublin Collinstown	IE	5.6	10.9	15.9
Stockholm Arlanda	SE	4.1	16.1	15.3
Bruxelles National	BE	10.0	18.5	15.1
Düsseldorf Rhein-Ruhr	DE	9.6	15.6	14.1
Wien Schwechat	AT	7.0	10.5	12.7

Source: Eurostat, Transport, Air transport

Table 20.28
Top 20 airports by goods loaded and unloaded, EU-15 (thousand tonnes) (1)

		1993	1998	2003
Frankfurt Rhein-Main	DE	1 180.4	1 524.2	1 642.7
Amsterdam Schiphol	NL	770.0	1 171.0	1 353.4
London Heathrow	UK	:	:	1 300.3
Paris Ch. de Gaulle	FR	:	:	1 193.7
Bruxelles National	BE	306.2	585.3	606.5
Luxembourg Findel	LU	0.0	382.6	602.6
Köln/Bonn	DE	180.8	382.0	530.0
Liège Bierset (2)	BE	:	163.8	383.8
København Kastrup (3)	DK	:	374.1	335.7
Milano Malpensa	IT	92.6	159.5	318.4
Madrid Barajas	ES	127.9	183.6	296.3
East Midlands	UK	:	:	238.0
London Gatwick	UK	:	:	233.5
London Stansted	UK	:	:	202.7
Roma Fiumicino	IT	231.5	199.0	163.9
München F.J. Strauss	DE	59.9	135.5	163.4
Athens	EL	:	:	131.3
Bergamo Orio al Serio	IT	2.1	1.1	127.9
Wien Schwechat	AT	71.1	107.1	127.0
Manchester Ringway Intl	UK	:	:	125.7

(1) All goods loaded onto or unloaded from an aircraft. Includes express services and diplomatic bags. Excludes passenger baggage. Excludes direct transit freight and mail.

(2) Source, <http://www.liegeairport.com>. (3) Source, <http://www.cph.dk>.

Source: Eurostat, Transport, Air transport

Table 20.29
**Cargo handling and storage; other supporting transport activities;
 activities of other transport agencies (NACE Groups 63.1, 63.2 and 63.4)**
**Labour productivity, personnel costs and gross operating rate:
 ranking of the top 3 Member States, 2002 (1)**

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Denmark (81.5)	Luxembourg (49.4)	Malta (296.6)	Malta (50.1)
2	Belgium (74.8)	Belgium (48.3)	Latvia (287.1)	Cyprus (35.3)
3	Austria (74.7)	Austria (45.3)	Estonia (283.2)	Portugal (21.0)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The largest airport in the EU-15 in 2003 in passenger terms was London Heathrow (UK), with 63.2 million passengers - see Table 20.27. Among the largest airports several have seen tremendous growth in passenger numbers in the five years from 1998 to 2003, notably Milano Malpensa (IT), Barcelona Transoceanico (ES), Madrid Barajas (ES) and Roma Fiumicino (IT), which all at least doubled their traffic. Passenger numbers at London Stansted (UK) are estimated to have nearly tripled over the same period.

As regards freight traffic, the largest EU-15 airport was Frankfurt (DE) with 1.6 million tonnes of loaded and unloaded freight and mail in 2003 - see Table 20.28. In relative terms, Bergamo Orio al Serio (IT) experienced the highest percentage increase in freight traffic between 1998 and 2003, albeit from a very low level. Among the more established freight airports Liège Bierset (BE) was the only one to see its volume of freight transport more than double over the period considered, a level of growth that was nearly reached by Milano Malpensa.

PRODUCTIVITY AND PROFITABILITY

The auxiliary transport services sector faced average personnel costs of EUR 34 300 per employee in the EU-25 in 2002, somewhat higher than the EUR 30 400 average for transport services. Nevertheless, above average apparent labour productivity more than compensated for these high levels of average personnel costs and this was reflected in the ratio of wage adjusted labour productivity, which was 162.1 % in the EU-25 in 2002, some 27.4 percentage points above the average for transport services. Only Luxembourg and Malta⁽²¹⁾ reported wage adjusted labour productivity ratios for auxiliary transport activities that were lower than their transport services' average.

The gross operating surplus in auxiliary transport services represented 15.1 % of turnover in the EU-25 in 2002, some 2.6 percentage points above the transport services average and comparable with levels recorded for land and water transport services.

⁽²¹⁾ Belgium and the Czech Republic, 2001; Greece and Poland, not available.

Table 20.30

Land transport; transport via pipelines (NACE Division 60)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	371 333	12 016	7 051	8 335	53 665	677	33 015	58 464	2 182	49 771	128	681	961	1 257	4 623	80	
Production (EUR million) (2)	:	12 154	4 820	8 411	51 393	662	27 046	56 881	1 876	52 025	128	668	964	936	3 863	78	
Value added at factor cost (EUR million) (3)	168 763	6 625	1 113	4 289	27 113	184	16 690	28 041	843	21 018	78	290	350	578	1 798	37	
Gross operating surplus (EUR million) (2)	54 157	1 762	-236	1 706	9 094	71	8 358	4 446	65	8 330	15	121	150	121	640	28	
Purchases of goods and services (EUR million) (4)	197 665	7 561	4 829	4 393	30 626	472	18 462	30 452	1 328	30 091	48	378	650	830	3 014	39	
Gross investment in tangible goods (EUR million) (3)	:	2 431	1 085	1 308	6 939	98	3 488	7 418	440	5 028	11	235	117	:	721	2	
Number of persons employed (thousands) (5)	5 259	133	233	78	698	22	527	696	28	539	5	44	55	12	181	2	
Personnel costs (EUR million) (2)	114 606	4 863	1 349	2 584	18 019	113	8 333	22 521	778	12 688	63	169	199	457	1 158	9	
App. labour productivity (EUR thous./pers. emp.) (2)	32.1	48.3	4.9	55.3	38.8	8.2	31.7	38.7	29.6	39.0	16.2	6.5	6.3	49.8	9.9	16.0	
Average personnel costs (EUR thous./employee) (2)	26.5	38.6	6.9	37.4	28.6	5.1	24.1	34.7	31.6	32.8	23.8	3.9	3.9	40.9	7.8	10.0	
Wage adjusted labour productivity (%) (2)	121.0	125.0	70.4	148.0	135.6	160.5	131.5	111.7	93.6	118.9	68.0	169.1	163.5	121.7	127.0	161.2	
Gross operating rate (%) (2)	14.6	14.6	-3.7	20.5	16.9	10.5	25.3	7.8	3.0	16.7	11.7	17.8	15.6	9.6	13.8	34.5	
Investment per person employed (EUR thousand) (2)	:	17.7	4.8	16.9	9.9	4.4	6.6	7.2	15.4	9.3	2.3	5.3	2.1	:	4.0	0.7	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	18 543	10 561	12 992	4 467	1 291	1 219	6 187	12 621	56 512	1 583	:	2 873	:	:	:	5 496	4 766
Production (EUR million)	18 403	9 218	12 258	4 483	1 393	1 203	6 270	12 802	56 783	1 508	:	2 746	:	:	:	5 468	4 813
Value added at factor cost (EUR million)	9 063	7 009	4 421	1 812	479	501	3 233	4 407	25 142	350	:	1 163	:	:	:	2 835	2 538
Gross operating surplus (EUR million)	2 529	2 287	275	359	86	86	1 230	814	9 702	129	:	544	:	:	:	1 041	680
Purchases of goods and services (EUR million)	10 501	5 890	8 501	2 742	826	853	3 039	8 568	33 931	1 324	:	2 015	:	:	:	3 123	2 147
Gross investment in tangible goods (EUR million)	1 331	2 995	803	1 153	85	462	775	1 418	4 762	152	:	708	:	:	:	697	:
Number of persons employed (thousands)	206	146	472	97	31	70	74	122	559	119	:	218	:	:	:	69	37
Personnel costs (EUR million)	6 534	4 722	4 145	1 453	393	415	2 004	3 593	15 439	222	:	619	:	:	:	1 793	1 858
App. labour productivity (EUR thous./pers. emp.)	44.1	48.1	9.4	18.7	15.5	7.1	43.6	36.3	45.0	3.0	:	5.3	:	:	:	40.9	68.1
Average personnel costs (EUR thous./employee)	33.7	34.7	13.3	16.5	16.4	5.9	34.5	32.8	30.1	3.1	:	2.9	:	:	:	32.5	:
Wage adjusted labour productivity (%)	130.7	138.4	70.6	113.1	94.4	120.6	126.6	110.6	149.7	96.5	:	181.8	:	:	:	125.8	:
Gross operating rate (%)	13.6	21.7	2.1	8.0	6.7	7.1	19.9	6.4	17.2	8.1	:	18.9	:	:	:	18.9	14.3
Investment per person employed (EUR thousand)	6.5	20.5	1.7	11.9	2.7	6.6	10.5	11.7	8.5	1.3	:	3.2	:	:	:	10.1	:

(1) Norway and Switzerland, 2001. (2) Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.

(4) EU-25, Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 20.31

Water transport (NACE Division 61)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	63 549	2 477	71 11	941	13 148	275	1 413	5 926	:	6 999	169	9	92	413	68	50	
Production (EUR million) (2)	:	2 020	:	11 988	12 286	236	1 182	5 614	:	7 528	167	9	92	413	51	50	
Value added at factor cost (EUR million) (3)	16 620	113	0	1 977	4 456	34	467	941	:	1 803	83	0	41	44	16	21	
Gross operating surplus (EUR million) (2)	10 115	69	:	1 351	3 261	19	242	200	:	889	32	-1	18	-12	1	10	
Purchases of goods and services (EUR million) (4)	46 708	1 918	:	10 172	9 141	241	1 023	4 849	:	5 543	80	8	52	368	53	26	
Gross investment in tangible goods (EUR million) (5)	:	31	:	1 144	282	52	215	166	:	1 191	18	0	11	:	10	14	
Number of persons employed (thousands) (6)	174	1	1	12	29	1	7	16	:	24	3	0	2	2	2	1	
Personnel costs (EUR million) (2)	6 505	44	:	626	1 195	15	225	638	:	914	51	2	22	56	15	12	
App. labour productivity (EUR thous./pers. emp.) (2)	95.3	89.0	4.8	163.6	154.9	25.5	62.7	52.7	:	75.8	24.4	1.9	21.1	26.6	8.1	29.1	
Average personnel costs (EUR thous./employee) (2)	39.9	50.7	5.3	53.5	45.0	11.5	30.5	42.9	:	41.4	15.0	8.2	11.6	34.6	8.1	19.1	
Wage adjusted labour productivity (%) (2)	238.9	175.8	90.2	306.1	344.2	221.8	205.7	122.8	:	182.9	162.9	23.8	181.2	76.9	99.6	152.3	
Gross operating rate (%) (2)	15.9	3.4	:	11.3	24.8	6.8	17.1	3.5	:	12.7	19.0	-16.2	19.9	-3.0	1.1	19.7	
Investment per person employed (EUR thousand) (2)	:	24.0	1.3	94.7	9.8	39.4	28.9	28.9	:	50.1	5.3	1.2	5.8	:	5.0	19.3	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	5 784	100	:	391	20	:	2 168	3 399	6 538	:	:	:	:	:	:	12 907	203
Production (EUR million)	5 722	78	:	395	19	:	1 992	3 289	6 192	:	:	:	:	:	:	12 753	215
Value added at factor cost (EUR million)	1 636	34	:	87	4	:	634	759	2 924	:	:	:	:	:	:	3 729	130
Gross operating surplus (EUR million)	1 018	24	:	43	1	:	287	230	2 016	:	:	:	:	:	:	2 185	29
Purchases of goods and services (EUR million)	4 174	75	:	319	19	:	1 583	2 670	3 582	:	:	:	:	:	:	9 382	91
Gross investment in tangible goods (EUR million)	641	25	:	64	1	:	77	546	598	4	:	:	:	:	:	1 296	:
Number of persons employed (thousands)	:	0	:	2	0	:	8	15	18	6	:	:	:	:	:	24	2
Personnel costs (EUR million)	619	11	:	43	3	:	348	529	909	18	:	:	:	:	:	1 544	102
App. labour productivity (EUR thous./pers. emp.)	:	100.2	:	45.1	19.5	:	74.8	50.4	158.7	:	:	:	:	:	:	157.3	69.0
Average personnel costs (EUR thous./employee)	:	36.1	:	24.1	19.6	:	41.2	36.4	52.2	2.9	:	:	:	:	:	65.8	:
Wage adjusted labour productivity (%)	:	277.5	:	187.0	99.5	:	181.5	138.5	304.0	:	:	:	:	:	:	239.1	:
Gross operating rate (%)	17.6	23.6	:	11.0	2.4	:	13.2	6.8	30.8	:	:	:	:	:	:	16.9	14.0
Investment per person employed (EUR thousand)	:	74.2	:	33.6	3.1	:	9.1	36.3	32.4	0.6	:	:	:	:	:	54.7	:

(1) Bulgaria and Switzerland, 2001. (2) Belgium and France, 2001. (3) Belgium and the Czech Republic, 2001. (4) EU-25, Belgium and France, 2001.

(5) Belgium, 2001. (6) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 20.32

Air transport (NACE Division 62)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	102 615	2 013	643	3 017	10 292	73	7 232	17 659	9 320	414	65	78 1 169	483	349			
Production (EUR million) (2)	:	2 655	:	3 088	9 294	74	7 278	16 598	9 527	405	68	88 1 098	444	363			
Value added at factor cost (EUR million) (3)	26 968	440	29	850	-104	12	2 417	4 152	1 803	123	12	23 400	72	246			
Gross operating surplus (EUR million) (2)	4 608	124	:	115	-3 381	4	616	6	222	24	5	11 204	-7	229			
Purchases of goods and services (EUR million) (2)	:	2 217	:	2 248	11 313	58	4 997	12 776	7 393	282	48	65 770	414	78			
Gross investment in tangible goods (EUR million) (4)	:	68	:	526	766	2	662	1 161	1 169	3	10	3	56	2			
Number of persons employed (thousands) (5)	411	6	5	13	47	1	36	70	23	2	1	1	3	3	2		
Personnel costs (EUR million) (2)	22 360	316	:	735	3 277	8	1 801	3 943	1 582	99	7	12 196	79	17			
App. labour productivity (EUR thous./pers. emp.) (2)	65.6	79.7	:	67.2	-2.2	20.4	67.6	56.1	77.4	50.6	21.2	21.6	129.7	21.2	107.8		
Average personnel costs (EUR thous./employee) (2)	55.3	58.4	:	58.2	70.2	13.3	50.3	56.0	68.7	40.8	12.3	10.9	63.6	23.8	7.4		
Wage adjusted labour productivity (%) (2)	118.7	136.4	:	115.5	-3.2	153.4	134.2	100.1	112.8	124.2	172.1	197.5	203.8	89.1	1 453.2		
Gross operating rate (%) (2)	4.5	4.7	:	3.8	-32.8	5.8	8.5	0.0	2.4	5.8	7.8	14.7	17.4	-1.4	65.7		
Investment per person employed (EUR thousand) (2)	:	12.3	:	41.6	16.3	3.5	18.5	29.3	50.2	1.1	16.6	2.7	16.5	0.8			
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	7 624	2 648	:	1 637	119	1 687	2 943	28 134	:	:	:	:	:	:	2 791	:	
Production (EUR million)	7 563	2 067	:	1 662	118	1 709	2 958	27 990	:	:	:	:	:	:	2 756	:	
Value added at factor cost (EUR million)	2 428	629	:	648	27	571	868	9 640	:	:	:	:	:	:	684	:	
Gross operating surplus (EUR million)	439	208	:	194	4	136	22	4 751	:	:	:	:	:	:	-147	:	
Purchases of goods and services (EUR million)	5 197	2 129	:	1 051	75	1 144	2 126	17 815	:	:	:	:	:	:	2 155	:	
Gross investment in tangible goods (EUR million)	:	93	:	40	1	91	522	925	6	:	:	:	:	:	431	:	
Number of persons employed (thousands)	:	8	:	11	1	9	14	91	3	:	:	:	:	:	14	:	
Personnel costs (EUR million)	1 989	421	:	454	23	435	846	4 889	14	:	:	:	:	:	832	:	
App. labour productivity (EUR thous./pers. emp.)	:	77.8	:	58.6	44.0	66.7	61.5	106.2	:	:	:	:	:	:	48.3	:	
Average personnel costs (EUR thous./employee)	:	52.4	:	41.1	37.7	50.9	60.3	54.5	4.4	:	:	:	:	:	58.7	:	
Wage adjusted labour productivity (%)	:	148.4	:	142.5	116.8	131.1	102.1	194.9	:	:	:	:	:	:	82.2	:	
Gross operating rate (%)	5.8	7.8	:	11.8	3.3	8.1	0.8	16.9	:	:	:	:	:	:	-5.3	:	
Investment per person employed (EUR thousand)	:	11.5	:	3.6	1.0	10.6	37.0	10.2	1.8	:	:	:	:	:	30.4	:	

(1) Bulgaria and Norway, 2001. (2) Belgium and France, 2001. (3) Belgium and the Czech Republic, 2001. (4) Belgium, 2001. (5) France, 2001.
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 20.33

Supporting and auxiliary transport activities; activities of travel agencies (NACE Division 63)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	439 722	17 032	4 138	9 049	85 759	1 360	35 458	58 025	44 360	348	990	583	701	2 513	473		
Production (EUR million) (2)	:	14 223	3 080	6 492	52 645	1 140	17 047	55 134	47 407	348	675	569	237	931	480		
Value added at factor cost (EUR million) (3)	124 915	3 273	509	2 341	30 883	274	9 407	17 228	15 103	258	290	171	149	444	249		
Gross operating surplus (EUR million) (2)	52 932	1 220	269	1 067	13 185	174	4 202	6 142	6 092	117	190	90	49	189	171		
Purchases of goods and services (EUR million) (4)	314 769	12 608	3 294	6 783	59 868	1 079	26 483	41 271	31 548	87	704	414	551	2 170	219		
Gross investment in tangible goods (EUR million) (3)	:	1 163	148	441	6 226	90	5 080	3 086	4 986	30	106	70	:	773	87		
Number of persons employed (thousands) (5)	2 377	48	40	31	515	11	192	297	322	8	17	13	2	31	5		
Personnel costs (EUR million) (2)	71 983	2 053	239	1 275	17 697	100	5 205	10 070	9 011	140	100	81	100	255	78		
App. labour productivity (EUR thous./pers. emp.) (2)	52.5	68.2	14.0	74.6	60.0	25.6	49.0	54.7	46.9	34.2	16.8	13.3	63.4	14.1	49.0		
Average personnel costs (EUR thous./employee) (2)	32.9	45.8	8.5	41.1	35.6	9.6	29.0	34.1	32.2	20.0	5.8	6.5	44.0	9.7	17.8		
Wage adjusted labour productivity (%) (2)	159.8	149.0	164.4	181.5	168.3	266.9	168.8	160.5	145.6	171.1	289.6	206.4	144.0	146.0	274.8		
Gross operating rate (%) (2)	12.0	7.7	7.1	11.8	15.4	12.8	11.9	10.9	13.7	33.7	19.2	15.5	7.0	7.5	36.2		
Investment per person employed (EUR thousand) (2)	:	24.2	4.1	14.1	12.1	8.4	26.4	19.0	15.5	3.9	6.1	5.4	:	24.6	17.1		
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	18 046	12 480	:	5 304	1 012	626	4 980	14 294	105 458	750	:	1 065	:	:	9 551	6 975	
Production (EUR million)	17 734	3 766	:	5 434	946	610	4 299	14 354	105 190	736	:	1 063	:	:	9 351	7 297	
Value added at factor cost (EUR million)	5 546	2 301	:	1 615	216	124	1 220	2 688	25 568	231	:	335	:	:	2 060	2 865	
Gross operating surplus (EUR million)	2 236	848	:	735	47	70	391	605	11 813	90	:	160	:	:	889	636	
Purchases of goods and services (EUR million)	13 504	10 270	:	3 834	716	502	3 802	11 769	80 350	572	:	688	:	:	7 571	4 461	
Gross investment in tangible goods (EUR million)	1 090	352	:	1 445	78	26	274	506	9 346	113	:	142	:	:	315	:	
Number of persons employed (thousands)	93	38	:	35	10	8	23	56	386	37	:	35	:	:	28	43	
Personnel costs (EUR million)	3 311	1 453	:	880	170	54	828	2 083	13 756	141	:	175	:	:	1 171	2 228	
App. labour productivity (EUR thous./pers. emp.)	59.6	60.3	:	46.3	21.7	16.2	52.1	48.0	66.3	6.2	:	9.5	:	:	74.4	66.8	
Average personnel costs (EUR thous./employee)	37.9	39.6	:	25.7	17.3	7.2	36.1	39.0	36.7	4.3	:	5.1	:	:	43.4	:	
Wage adjusted labour productivity (%)	157.1	152.5	:	180.2	125.3	223.8	144.4	123.0	180.4	143.2	:	185.2	:	:	171.5	:	
Gross operating rate (%)	12.4	6.8	:	13.9	4.6	11.2	7.9	4.2	11.2	12.0	:	15.0	:	:	9.3	9.1	
Investment per person employed (EUR thousand)	11.7	9.2	:	41.5	7.8	3.3	11.7	9.0	24.2	3.0	:	4.0	:	:	11.4	:	

(1) Norway and Switzerland, 2001. (2) Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.
(4) EU-25, Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Financial services



Financial services provide instruments to both businesses and consumers in the form of products that are essentially savings or loans, or products to transfer and pool risk. Changes in financing techniques have increased the possibilities open to business to fund investment, while consumers have a wider array of choices for credit and savings.

There has been considerable EU legislative activity in the sphere of financial services centred upon the creation of an internal market for financial services. This work has been conducted through the financial services action plan (FSAP), which was published by the European Commission in 1999. In October 2005 the Capital Requirements Directive for credit institutions and investment firms (implementation of Basel II - see Subchapter 21.1) and the 8th Company Law Directive on statutory audit (a common framework for auditing) were adopted by the Council, and subject to the adoption of these Directives by the European Parliament the legislative programme of the FSAP is effectively complete, meaning that attention will be focused on implementation, enforcement, evaluation and consolidation. In November 2005 the European Commission published the first part of its evaluation of the FSAP, the first step of an analysis of its impact.

Building on the reports in 2004 by four groups of experts on the state of financial integration in the banking, insurance, securities and asset management activities, in May 2005 the European Commission published a Green Paper on Financial Services Policy (2005-2010) ⁽¹⁾ and this is expected to be followed by a White Paper on its post-FSAP policy.

⁽¹⁾ COM(2005) 177.

One of the areas of attention of the Green Paper is retailing services in banking and insurance, and retail banking has also been chosen as part of a sector inquiry launched in June 2005 by the European Commission into competition in financial services. A sector inquiry is an information-gathering exercise that provides the European Commission with knowledge about particular markets, and it is expected that the sector inquiry will complement the efforts foreseen in the Green Paper by examining possible obstacles to competition that remain. The financial services sector inquiry started with retail banking payment cards and business insurance (including reinsurance) and is expected to also study other areas.

The absence of cross-border consolidation within the financial services sector has been studied by the European Commission ⁽²⁾, and in April 2005 it carried out a survey of market participants and an overwhelming majority of respondents identified the lack of cross-border cost synergies as a major obstacle.

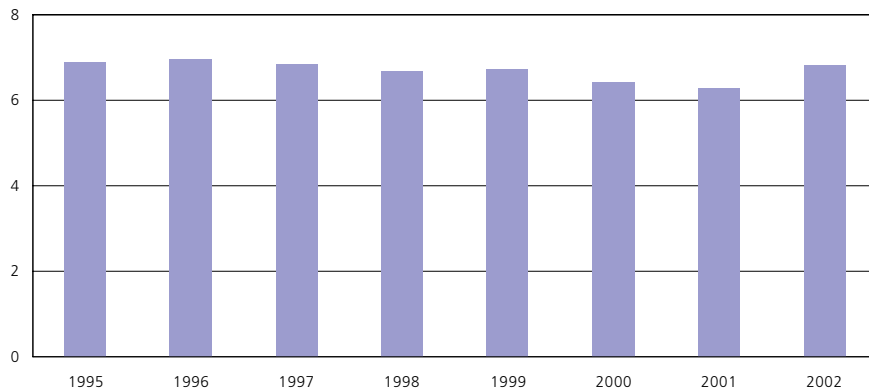
⁽²⁾ More information at:
http://europa.eu.int/comm/internal_market/finances/cross-sector/index_en.htm#obstacles.

The financial services' sector encompasses financial intermediation as offered by credit institutions, financial leasing and other credit granting enterprises, and financial intermediaries such as securities and derivatives dealers (all included within NACE Division 65), insurance and pension funding services (NACE Division 66), as well as activities providing financial auxiliary services, such as the administration of financial markets, security brokering, fund management and the various activities of brokers and agents for financial products (NACE Division 67).

NACE

- 65: financial intermediation, except insurance and pension funding;
- 65.1: monetary intermediation;
- 65.2: other financial intermediation;
- 66: insurance and pension funding, except compulsory social security;
- 67: activities auxiliary to financial intermediation;
- 67.1: activities auxiliary to financial intermediation, except insurance and pension funding;
- 67.2: activities auxiliary to insurance and pension funding.

Figure 21.1
Financial intermediation (NACE Section J)
Share of value added in the business economy (NACE Sections C to K),
EU average (%) (1)



(1) Excluding Malta and the Netherlands.

Source: Eurostat, Economy and Finance, National Accounts - Breakdowns (main aggregates and employment by industry, investment by product and consumption by purpose)

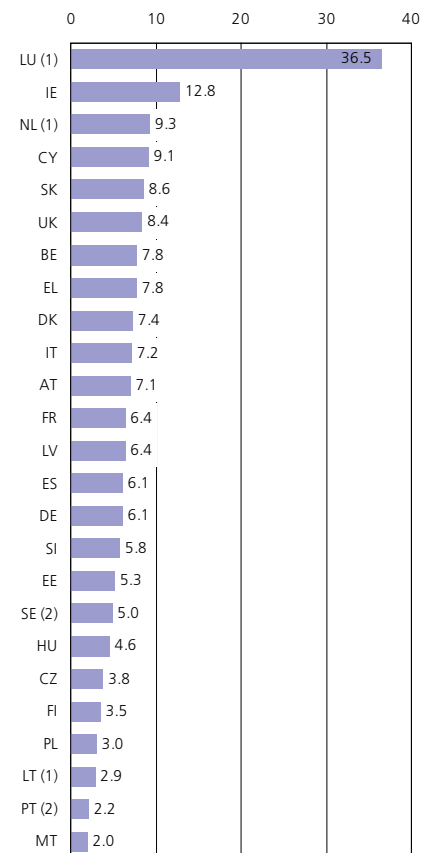
STRUCTURAL PROFILE

According to national accounts, financial services (NACE Section J) represented 6.8 % of gross value added within the EU's ⁽³⁾ business economy (NACE Sections C to K) in 2002. Figure 21.1 shows how this sector's contribution developed since 1995, falling from a high of 7.0 % in 1996 to a low of 6.3 % in 2001, before rebounding to 6.8 % of value added in 2002.

⁽³⁾ Excluding Malta and the Netherlands.

Among the Member States the contribution of this sector to the business economy's value added in 2004 was particularly high in Luxembourg (36.5 %, 2003) and Ireland (12.8 %), while in the remaining Member States it ranged from 2 % to 9 % - see Figure 21.2.

Figure 21.2
Financial intermediation (NACE Section J)
Share of value added in the business economy (NACE Sections C to K),
2004 (%)



(1) 2003.

(2) 2002.

Source: Eurostat, Economy and Finance, National Accounts - Breakdowns (main aggregates and employment by industry, investment by product and consumption by purpose)

21.1: FINANCIAL INTERMEDIATION

The activities covered by this subchapter include financial intermediation activities classified within NACE Division 65, whether they are monetary (NACE Group 65.1) or not (NACE Group 65.2).

Financial intermediation institutions play an important role as intermediaries for channelling savings into investments and through the allocation of capital in the form of loans. By supplying various financial products (mortgages, consumer credit), financial institutions can provide added impetus to economic growth and consumption, while others, which are designed to promote savings, are likely to reduce the rate of consumption.

One of the major regulatory changes in this sector is the introduction of Basel II, a global regulatory framework designed to encourage best practice in risk management and minimum capital requirements in the banking sector, and agreed by the Committee on Banking Supervision of the Bank for International Settlements in 2004. In October 2005 the Capital Requirements Directive for credit institutions and investment firms ⁽⁴⁾ was adopted by the Council which introduces a new supervisory framework in the EU which reflects the Basel II rules on capital measurement and capital standards. The Directive is to be applied from the start of 2007, with some approaches introduced in 2008, in line with the planned introduction of the Basel II rules.

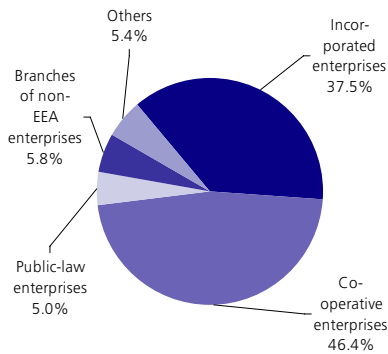
⁽⁴⁾ COM(2004) 486-2.

The European Commission has recently focused attention in this sector on the retail market, and retail banking is one of the areas to be studied by the financial services sector inquiry launched in 2005 - see the overview of this chapter for more details. New or renewed efforts are to be made concerning home loans and consumer credit. In July 2005 the European Commission published a Green Paper on mortgage credit in the EU ⁽⁵⁾, and intends to investigate whether the European Commission can intervene to make the mortgage market more efficient and competitive, leading to more choice and better value for EU consumers. A second revised proposal for a consumer credit directive ⁽⁶⁾ was adopted by the Commission in October 2005, and this takes into account many of the

⁽⁵⁾ COM(2005) 327.

⁽⁶⁾ COM(2005) 483.

Figure 21.3
Breakdown of number of credit institutions by legal status, EU average, 2003 (1)



(1) Spain, Italy, Portugal, Sweden and the United Kingdom, 2002; Latvia, Slovenia and Slovakia, 2001; Luxembourg, NACE Class 65.22 only; Slovenia, NACE Class 65.12 only; Latvia, provisional; excluding Germany and Ireland.
 Source: Eurostat, Industry, trade and services, Financial services, Statistics on credit institutions

comments from the European Parliament on the original and first revised proposals. The revised proposal covers consumer credit (not mortgages) of up to EUR 50 000 and aims to introduce a harmonised method for calculating the cost of credit and to establish a set of rights for all borrowers.

Credit institutions

Credit institutions are defined in the first indent of Article 1 of Council Directive 77/780/EEC: 'credit institution means an undertaking whose business is to receive deposits or other repayable funds from the public and to grant credits for its own account'. In terms of the NACE Rev. 1.1 classification, credit institutions mainly correspond to NACE Class 65.12 (other monetary intermediation). However, due to the different implementation of the EU Directives into national law, in some Member States credit institutions might also comprise a number of enterprises whose main activity should be classified under NACE Class 65.22 (other credit granting).

Figure 21.3 shows a breakdown by legal status of credit institutions in the EU (7) in 2003, when the most common legal form was co-operative enterprises (46.4 % of the total), followed by incorporated enterprises (37.5 %).

(7) Spain, Italy, Portugal, Sweden and the United Kingdom, 2002; Latvia, Slovenia and Slovakia, 2001; Luxembourg, NACE Class 65.22 only; Slovenia, NACE Class 65.12 only; Latvia, provisional; excluding Germany and Ireland.

Table 21.1
Main indicators by type of bank, EU-25, as of 31 December 2004

	Total assets (EUR billion)	Deposits (EUR billion)	Loans (EUR billion)
Co-operative banks (1)	3 742	1 944	1 869
Savings banks (2)	6 702	3 279	3 158
Commercial banks (3)	26 921	11 544	12 283

(1) The United Kingdom, 2002, Ireland and Portugal, 2001; Denmark and Sweden, 2000.
 (2) 2003; non bank loans and deposits; excluding Belgium, Estonia, Cyprus, Lithuania and Slovenia.
 (3) As of 31 December 2003; including co-operative banks in Cyprus.
 Source: EACB (European Association of Co-operative Banks; <http://www.eurocoopbanks.coop>); secretariat@eurocoopbanks.coop), ESBG (European Savings Bank Group), FBE (European Banking Federation)

Table 21.1 provides information on the banking activity for three different types of banks, although it should be noted that the source and coverage for each type is different. According to these figures (8), commercial banks accounted for over two thirds of the assets, deposits and loans in the EU banking sector, while the shares of savings banks were just under one fifth, with co-operative banks responsible for the smallest share.

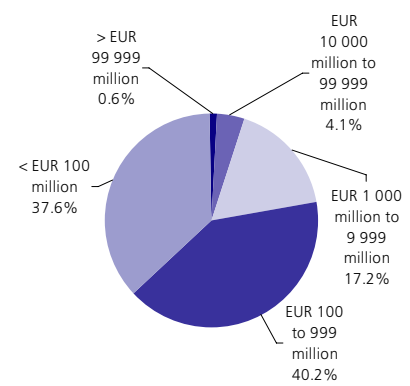
An analysis of the number of credit institutions according to the size of their balance sheets indicates that less than 1 % had a balance sheet total that was in excess of EUR 100 billion, while more than three-quarters of credit institutions reported a balance sheet total of less than EUR 1.0 billion (see Figure 21.4).

Access to the retail banking network has changed, with a move away from services provided in branches to services provided through automatic teller machines (ATMs), phone and Internet banking. Table 21.2 (overleaf) indicates that there were in excess of a quarter of a million ATMs in the EU by 2003, and that in most Member States with available data (9) there were more ATMs than local units. The three Baltic States recorded the highest ratios of ATMs to local units, while the lowest ratios were in Austria and Poland.

(8) EACB (European Association of Co-operative Banks), more information at: <http://www.eurocoopbanks.coop>; ESBG (European Savings Bank Group), more information at: <http://www.savings-banks.com>; and FBE (European Banking Federation), more information at: <http://www.fbe.be>.

(9) Latvia, Lithuania, Slovenia, NACE Class 65.12 only; Luxembourg, NACE Class 65.22 only; Spain, Italy, Portugal, Sweden and the United Kingdom, 2002; Germany and Ireland, 2001; the Czech Republic, Malta and Slovakia, not available.

Figure 21.4
Breakdown of number of credit institutions by balance sheet total, EU average, 2003 (1)



(1) Germany, Spain, Italy, Portugal, Sweden and the United Kingdom, 2002; Latvia, provisional, 2001; Luxembourg, NACE Class 65.22 only; excluding Ireland, Cyprus, Hungary, Malta and Slovakia.
 Source: Eurostat, Industry, trade and services, Financial services, Statistics on credit institutions

Consumer credit

Consumer credit is a part of other credit granting (NACE Class 65.22). Eurofinas (10) provide information on a number of credit markets for ten of the Member States. The outstanding value (which is defined as overall capital lent, net of due interests, before write-off) of the consumer credit and car finance market in 2004 was EUR 903 billion in these ten countries.

(10) Eurofinas (European Federation of Finance House Associations), more information at: <http://www.eurofinas.org>; data refer to the EU-15 excluding Denmark, Greece, Ireland, Luxembourg and Austria.

Table 21.2
Network access, 2003 (units)

	Number of local units	Number of ATMs	Ratio of ATMs to local units
BE	3 773	6 671	1.8
CZ	1 090	:	:
DK	2 116	2 873	1.4
DE (1)	56 486	49 620	0.9
EE	212	747	3.5
EL	3 161	5 468	1.7
ES (2)	39 009	51 765	1.3
FR	25 435	24 118	0.9
IE (1)	970	1 355	1.4
IT (3)	29 947	36 292	1.2
CY	499	374	0.7
LV (4)	375	868	2.3
LT (4)	431	994	2.3
LU (5)	500	379	0.8
HU	2 875	2 975	1.0
MT	:	:	:
NL	4 499	7 556	1.7
AT	5 216	2 478	0.5
PL	12 336	7 585	0.6
PT (2)	5 546	11 117	2.0
SI (4)	652	1 272	2.0
SK (6)	314	:	:
FI	1 926	3 955	2.1
SE (2)	2 240	2 647	1.2
UK (2)	15 036	31 073	2.1

(1) 2001.

(2) 2002.

(3) Number of ATMs and ratio of ATMs to local units, 2002.

(4) NACE Class 65.12 only.

(5) NACE Class 65.22 only.

(6) NACE Class 65.12 only; 2001.

Source: Eurostat, Industry, trade and services, Financial services, Statistics on credit institutions

Financial leasing

Financial leasing is classified under NACE Class 65.21, and covers leasing where the term of the lease approximately covers the expected life of the asset and the lessee acquires substantially all the benefits of its use and takes all the risks associated with its ownership: the asset may or may not eventually be transferred to the lessee. No structural business statistics are available for this activity, but Leaseurope ⁽¹¹⁾ provide information on the value of assets leased or provided under hire purchase contracts for 19 of the Member States. The value of new contracts for leased and hire purchase assets was just under EUR 240 billion in 2004 in these countries.

⁽¹¹⁾ Leaseurope (European Federation of Leasing Company Associations), more information at: <http://www.leaseurope.org>; data refer to the EU-25 excluding Ireland, Cyprus, Latvia, Lithuania, Luxembourg and Malta.

EMPLOYMENT CHARACTERISTICS

According to results from the Labour Force Survey there were 3.6 million persons employed in the financial intermediation sector (NACE Division 65) in the EU-25 in 2004 – note that structural business statistics are the source of employment data in other chapters of the present publication. This equated to 62.4 % of the financial services (NACE Section J) total and to 5.0 % of those employed in the services sector (NACE Sections G to K). Germany (20.9 % of the EU-25 workforce) and the United Kingdom (19.5 %) had the largest financial intermediation workforces in the EU-25 in 2004, nearly twice the size of those in Italy (11.8 %) and France (11.3 %). This sector accounted for less than 3 % of services employment in Lithuania (2.1 %) and Estonia (2.6 %), while it contributed 6 % or more in the United Kingdom (6.0 %), Austria (6.1 %), Ireland (6.3 %), Belgium (6.7 %) and Cyprus (7.1 %), with Luxembourg heavily specialised in this activity, as financial intermediation represented 20.4 % of all services employment.

The characteristics of the labour force within the financial intermediation sector differ considerably from those displayed for the services sector as a whole - see Table 21.3. There were noticeable differences in terms of the proportion of persons who worked on a full-time basis, 85.7 % in the EU-25's financial intermediation sector, some 5.5 percentage points more than the services average. A higher incidence of full-time employment was registered in each of the Member States ⁽¹²⁾, except for Belgium. The largest difference between full-time employment rates in the financial intermediation and the services sectors was registered in the Netherlands and Denmark, where the proportion of persons employed on a full-time basis was more than 14 percentage points above the services average.

The average proportion of the services sector workforce in the EU-25 that was male was 55.6 % in 2004, compared with 48.8 % for the financial intermediation sector. Among the Member States ⁽¹³⁾, the Benelux countries, Latvia, and the southern Member States of Greece, Spain, Italy, Malta and Portugal reported that men were in the majority in the financial intermediation sector's workforce.

The age structure of the EU-25's financial intermediation workforce displays a relatively low proportion of younger workers (less than 25 years of age) and older workers (aged 50 or over). Some 72.5 % of the workforce was aged between 25 and 49 in 2004, 6.4 percentage points higher than the services average. A similar pattern was observed in 2004 in nearly all Member States ⁽¹⁴⁾, as the proportion of persons aged between 25 and 49 was consistently above the national services average, except in France.

⁽¹²⁾ Estonia, not available.

⁽¹³⁾ Estonia and Lithuania, not available.

⁽¹⁴⁾ Estonia, not available.

Table 21.3

Financial intermediation, except insurance and pension funding (NACE Division 65)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years	25-49 years	50+ years
EU-25	48.8	87.8	85.7	106.8	8.7	72.5	18.8
BE	56.8	96.4	76.3	97.2	5.9	71.9	22.2
CZ	37.2	69.5	96.9	102.8	5.5	76.3	18.2
DK	47.3	79.6	88.3	119.0	8.5	67.6	23.8
DE	46.4	89.1	81.7	111.1	10.6	68.3	21.1
EE	:	:	:	:	:	:	:
EL	51.5	84.8	99.4	103.4	3.7	80.3	16.0
ES	64.1	114.1	96.9	107.6	4.1	73.3	22.5
FR	44.0	78.2	85.2	100.5	6.7	68.3	24.9
IE	40.5	74.9	88.3	112.0	17.8	71.4	10.8
IT	61.8	103.9	91.1	108.1	5.0	73.2	21.8
CY	39.1	73.7	98.6	107.6	4.8	80.6	14.6
LV	60.4	119.1	97.4	107.4	:	66.5	:
LT	:	:	98.0	104.6	:	91.5	:
LU	59.8	100.8	86.9	102.6	:	84.0	13.7
HU	31.1	57.9	96.3	101.7	7.0	73.9	19.1
MT	53.4	75.3	92.4	102.9	:	72.9	:
NL	58.4	100.9	69.9	127.2	6.0	75.1	18.9
AT	42.7	85.0	80.4	108.0	11.1	74.2	14.7
PL	28.6	53.4	94.3	104.9	7.4	80.3	12.3
PT	62.9	113.0	99.4	106.8	:	75.4	20.4
SI	25.9	50.1	93.8	102.4	:	75.3	17.5
SK	28.8	56.6	99.3	102.8	11.6	78.3	10.1
FI	21.4	39.9	91.4	110.0	:	63.3	33.2
SE	41.3	69.8	81.1	106.4	:	66.2	30.6
UK	47.3	85.0	80.4	113.3	14.0	75.1	10.9

Source: Eurostat, Eurostat, Labour market, Total employment - LFS series

21.2: INSURANCE AND PENSION FUNDS

The activities covered by this subchapter include insurance and pension fund services, which are classified within NACE Division 66. Compulsory social security services are excluded.

Insurance

The European Union has worked towards the creation of a single insurance market, promoting efficiency and market integration, by allowing insurers to provide their services freely throughout the EU. Legislation has been adopted to protect customers, in particular individuals, through the safe delivery of benefits, by determining the law applicable to insurance contracts in the EU, and by providing additional information to policyholders before entering into a contract and during the contract.

In relation to motor vehicle insurance (considered as part of the non-life market) there have been four directives which aim to guarantee the free movement of vehicles within the EU such that all vehicles are covered by compulsory third party insurance. The directives also guarantee protection for victims of accidents, including those caused by unidentified or uninsured vehicles. In 2002 the European Commission proposed a fifth motor insurance directive to modernise existing directives in this field and to further improve the protection afforded to victims and this was adopted on 11 May 2005 ⁽¹⁵⁾.

The Council adopted the reinsurance directive ⁽¹⁶⁾ in October 2005 and this will provide for regulation of specialised reinsurers, requiring them to be authorised in their home Member State, after which they will be free to operate throughout the EU.

⁽¹⁵⁾ Directive 2005/14/EC of the European Parliament and of the Council.

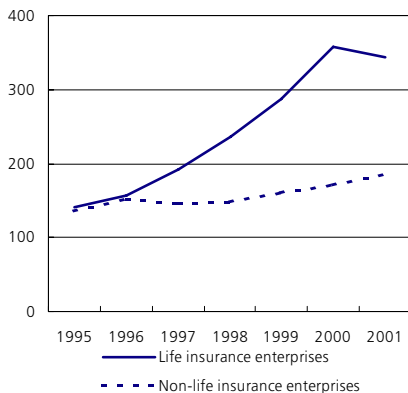
⁽¹⁶⁾ COM(2004) 273.

Life and non-life insurance enterprises

One measure often used to indicate the size of insurance activity is the value of gross premiums written. Figure 21.5 (overleaf) shows the development of this indicator for life and non-life enterprises for an aggregate of 10 Member States ⁽¹⁷⁾. During the second half of the 1990s there was a rapid expansion of gross premiums written by life insurance enterprises, as average growth was 20.5 % per annum between 1995 and 2000. In 2001 however this measure of activity showed a contraction, with a 4.3 % fall in the value of gross premiums written. Growth for non-life insurance enterprises was generally more modest, and this subsector also recorded one fall during the period shown, in 1997. Over the period from 1995 to 2001 the value of gross premiums written by non-life insurance enterprises grew on average by 5.3 % per annum.

⁽¹⁷⁾ EU-15 excluding Belgium, Greece, France, Ireland and Austria.

Figure 21.5
Evolution of gross premiums written,
EU average (EUR billion) (1)



(1) EU-15 excluding Belgium, Greece, France, Ireland and Austria.

Source: Eurostat, Industry, trade and services, Financial services, Insurance services

A snapshot of data for life and non-life insurance enterprises can be made for 18 of the Member States ⁽¹⁸⁾. In 2001 the value of gross premiums written by life insurance enterprises in these Member States was EUR 385.2 billion, 1.6 times as high as by non-life insurance enterprises (EUR 235.2 billion).

The United Kingdom accounted for the highest share of total premiums written (again in value terms) by life insurance enterprises in 2001 - see Table 21.4 for data availability. For non-life insurance enterprises Germany accounted for the highest value of premiums written, ahead of the United Kingdom and France (2000) - see Table 21.5 for data availability.

A breakdown of premiums written for non-life insurance products in 2001 is shown in Figure 21.6 - note the incomplete coverage in terms of Member States and products. Motor vehicle insurance was the largest non-life product, accounting for 32.0 % of the total for the products presented. Accident and health (24.7 %) and fire and other property damage (22.2 %) were the second and third most important non-life insurance products.

Specialised reinsurance enterprises

Data availability is weaker for specialised reinsurance enterprises with data for only 11 of the EU-15 Member States ⁽¹⁹⁾ for 2000 or 2001, however included are all of the largest Member States - see Table 21.6. Gross premiums written by reinsurance enterprises in 2001 were valued at EUR 60.5 billion, just over 10 % of the level for life and non-life insurance enterprises in the same 11 Member States.

⁽¹⁸⁾ France and Austria, 2000; Belgium, the Czech Republic, Greece, Ireland, Cyprus, Malta and Slovenia, not available.

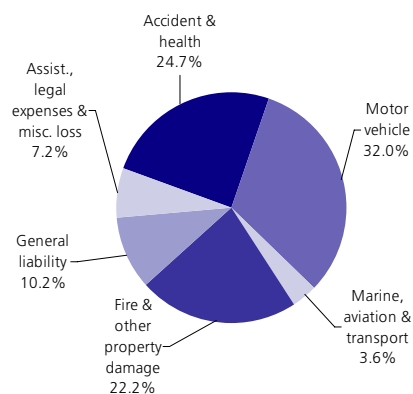
⁽¹⁹⁾ Germany, France and Austria, 2000; Belgium, Greece, Ireland and the Netherlands, not available.

Table 21.4
Life insurance enterprises - main indicators

	Gross premiums written (EUR million)			Number of persons employed (units)		
	1999	2000	2001	1999	2000	2001
BE	1 970	:	:	473	:	:
CZ	:	:	:	:	:	:
DK	6 614	7 326	8 145	1 623	1 902	1 838
DE	59 085	61 247	62 458	59 187	58 805	57 849
EE	:	:	23	:	:	154
EL	:	:	:	:	:	:
ES	9 984	12 124	8 207	2 962	2 772	2 470
FR	34 082	38 840	:	:	:	:
IE	8 528	:	:	4 939	:	:
IT	26 219	28 843	37 580	3 339	3 294	3 432
CY	:	:	:	:	:	:
LV	19	8	8	110	86	122
LT	9	12	19	153	163	225
LU	4 688	5 982	5 389	912	1 156	1 412
HU	194	268	255	:	:	3 081
MT	:	:	:	:	:	:
NL	21 193	23 022	25 814	8 000	9 200	9 400
AT	447	534	:	213	234	:
PL	1 732	2 079	2 522	7 071	9 279	9 452
PT	2 140	2 582	3 039	850	863	884
SI	:	:	:	:	:	:
SK	29	43	52	:	534	:
FI	3 152	2 517	3 330	715	786	851
SE	10 843	14 843	13 000	4 600	3 900	4 100
UK	142 899	199 807	175 944	:	:	:

Source: Eurostat, Industry, trade and services, Financial services, Insurance services

Figure 21.6
Breakdown of gross direct premiums
written for non-life insurance products,
EU average, 2001 (1)



(1) EU-25, excluding the Czech Republic, Estonia, Greece, Ireland, Italy, Cyprus, Hungary, Malta, the Netherlands and Slovenia; excluding credit and suretyship insurance and other non-life products; premiums written by non-life insurance enterprises only (excluding composites).

Source: Eurostat, Industry, trade and services, Financial services, Insurance services

Table 21.5

Non-life insurance enterprises - main indicators

	Gross premiums written (EUR million)			Number of persons employed (units)		
	1999	2000	2001	1999	2000	2001
BE	3 832	4 057	4 578	6 234	:	7 223
CZ (1)	55	79	103	1 000	1 000	1 000
DK	3 817	4 015	4 226	13 555	11 860	11 546
DE	73 853	76 203	79 128	160 398	159 735	158 320
EE	:	:	94	:	:	955
EL	:	:	:	:	:	:
ES	6 472	7 927	8 981	14 604	17 181	18 253
FR	42 391	43 892	:	:	:	:
IE	3 376	:	:	4 222	:	:
IT	10 578	10 940	11 117	12 534	12 392	12 095
CY	:	:	:	:	:	:
LV	144	157	166	1 376	1 501	2
LT	110	106	114	4 280	3 535	4 062
LU	647	742	831	870	948	890
HU	10	15	18	:	:	726
MT	:	:	:	:	:	:
NL	15 550	17 314	18 219	40 000	38 600	38 100
AT	1 718	1 742	:	4 967	1 211	:
PL	2 830	3 119	3 574	22 114	23 196	23 159
PT	1 595	1 859	1 828	6 219	5 381	5 387
SI	:	:	:	:	:	:
SK	7	10	12	:	272	:
FI	2 416	1 493	2 671	7 485	8 589	10 401
SE	6 310	8 411	8 017	11 600	13 800	13 600
UK	38 456	42 365	50 611	:	:	:

(1) 2001, provisional.

Source: Eurostat, Industry, trade and services, Financial services, Insurance services

Table 21.6

Gross premiums written by specialised reinsurance enterprises (EUR million)

	2000	2001
BE	:	:
CZ	:	:
DK	878.0	1 120.0
DE	40 012.0	:
EE	:	:
EL	:	:
ES	788.0	903.0
FR	5 964.0	:
IE	:	:
IT	1 772.0	1 638.0
CY	:	:
LV	:	:
LT	:	:
LU	2 841.0	3 094.0
HU	:	:
MT	:	:
NL	:	:
AT	1 389.0	:
PL	:	:
PT	6.0	7.0
SI	86.0	100.0
SK	:	:
FI	-1.0	1.0
SE	53.0	198.0
UK	6 113.0	6 158.0

Source: Eurostat, Industry, trade and services, Financial services, Statistics on pension funds

Pension funds

Official statistics on the pension funds sector are scarce. The information presented in Table 21.7 indicates that Ireland, the Netherlands and the United Kingdom were among the countries where the autonomous pension funds activity was most important.

EMPLOYMENT CHARACTERISTICS

The number of persons employed in the EU-25's insurance and pension funding sector (NACE Division 66) was 1.3 million in 2004. This equated to 21.6 % of those employed in the financial services (NACE Section J) sector or to 1.7 % of the services' (NACE Sections G to K) workforce. Germany dominated this sector in employment terms with 332 300 persons employed, over a quarter (26.5 %) of the EU-25 workforce. France (13.9 %) and Italy (10.0 %) were the only other Member States with a double-digit share in this sector. The most specialised Member States ⁽²⁰⁾, in terms of this sector's contribution to services employment, were Luxembourg (2.5 %), Germany (2.6 %), Slovenia and Ireland (both 2.8 %).

The labour force characteristics of the insurance and pension funding sector resembled those of the financial intermediation sector (NACE Division 65) in terms of the incidence of full-time employment and the gender balance. Full-time employment accounted for 86.2 % of those employed in the EU-25's insurance and pension funding sector in 2004, compared with a services' average of 80.3 %. In nearly all Member States ⁽²¹⁾ the proportion of persons working full-time was close to or higher than the national average for the whole of services, with Latvia the main exception, where the proportion of part-time employment in the insurance and pension funding sector was 8.0 percentage points lower than the Latvian services' average. There was an almost equal gender balance in the insurance and pension funding sector, as 48.7 % of those employed in this sector in the EU-25 in 2004 were men. In seven of the 21 Member States for which data are available ⁽²²⁾, men made up a majority of the workforce. This was notably the case in Portugal, where 66.0 % of the workforce was male, the only Member State where the male proportion of the workforce rose above 60 %. Furthermore, Portugal was one of only four Member States where the proportion of men working in the insurance and pension funding sector was higher than the national services' average. Women accounted for two thirds or more of the insurance and pension funding

Table 21.7

Main indicators for autonomous pension funds, 2002 (EUR million)

	Number of pension schemes (units)	Number of active members (thousands)	Pension contributions receivable from members	Pension contributions receivable from employers	Investment income	Total expenditure on pensions
BE	:	272.2	109.0	1 136.0	-1 344.0	1 371.0
CZ	:	2 570.1	409.7	68.4	150.1	220.0
DK	:	9.8	13.0	62.0	-176.0	202.0
DE (1)	299.0	:	:	:	8 814.7	:
EE	1.0	37.1	1.7	0.0	0.2	0.0
EL	:	:	:	:	:	:
ES	2 775.0	6 495.1	4 786.8	3 566.0	-403.3	6 930.0
FR	:	:	:	:	:	:
IE (2)	86 348.0	:	:	:	:	:
IT	:	1 937.0	1 198.0	1 321.0	:	1 758.0
CY	:	:	:	:	:	:
LV	9.0	20.1	0.1	6.6	1.8	0.0
LT	:	:	:	:	:	:
LU	:	:	:	:	:	:
HU	3 373 440.0	3 184.4	582.0	183.0	177.0	135.0
MT	:	:	:	:	:	:
NL (3)	:	5 755.0	3 644.0	13 360.0	-34 764.0	16 234.0
AT (4)	9 620.0	349.2	85.8	436.8	-370.0	359.0
PL	79.0	49.3	0.9	29.7	:	:
PT	467.0	282.0	:	:	-441.0	927.0
SI	:	:	0.0	0.0	6.3	0.0
SK	:	:	:	:	:	:
FI	108.0	71.0	2.0	197.0	98.0	281.0
SE (5)	:	427.1	:	:	542.8	319.0
UK	:	:	8 250.0	22 796.0	4 675.0	55 015.0

(1) 2000, estimates.

(2) 2001.

(3) Provisional.

(4) Pensions contributions receivable, estimates.

(5) Total expenditure on pensions and number of active members, 2001.

Source: Eurostat, Industry, trade and services, Financial services, Statistics on pension funds

labour force in Poland, Cyprus and the Czech Republic. These same three Member States reported that female employment rates in the insurance and pension funding sector were 20 percentage points or more above the national services' average - the largest differences among the Member States.

The age structure of the workforce in the insurance and pension funding sector was fairly typical for a financial services sector, in that the proportion of younger workers (aged less than 25) in the workforce was relatively low (7.2 % in the EU-25 in 2004), and the proportion of workers aged 25 to 49 was relatively high (70.1 %). The former figure was the lowest proportion among the three financial services

NACE divisions, and 5.8 percentage points lower than the services average, while the proportion of workers aged 25 to 49 was 4.0 percentage points higher than the services average of 66.1 %. In contrast to the two other financial services NACE divisions, the proportion of older workers (aged 50 or over) was higher in 2004 in the EU-25's insurance and pension funding sector (22.7 %) than the services average (21.0 %). Only a few Member States have data available for an age breakdown in this sector (see Table 21.8) but the proportion of younger workers in the Irish insurance and pension funding sector stands out as it is not only much higher than for the other Member States with available data, but it is also higher than the Irish services average.

⁽²⁰⁾ Estonia, Lithuania and Malta, not available.

⁽²¹⁾ Estonia, Lithuania and Malta, not available.

⁽²²⁾ Estonia, Latvia, Lithuania and Malta, not available.

Table 21.8

Insurance and pension funding, except compulsory social security (NACE Division 66)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years
EU-25	48.7	87.6	86.2	107.3	7.2	70.1	22.7
BE	46.5	78.9	77.8	99.1	5.5	79.2	16.3
CZ	33.3	62.2	94.8	100.6	7.2	62.2	30.6
DK	54.9	92.3	90.9	122.4	:	62.6	31.9
DE	54.5	104.8	83.8	113.9	7.5	65.3	27.2
EE	:	:	:	:	:	:	:
EL	47.1	77.5	94.7	98.5	7.4	77.3	17.3
ES	58.9	104.9	94.0	104.4	5.6	73.7	20.7
FR	40.5	71.9	85.3	100.6	4.9	71.2	23.8
IE	41.1	75.9	88.7	112.4	22.5	67.2	:
IT	49.0	82.4	88.7	105.2	5.6	70.7	23.7
CY	32.9	62.0	89.9	98.2	:	77.0	:
LV	:	:	82.7	91.2	:	:	:
LT	:	:	:	:	:	:	:
LU	55.2	93.2	83.2	98.3	:	87.9	:
HU	38.6	71.8	96.2	101.6	11.8	70.9	26.1
MT	:	:	:	:	:	:	:
NL	55.8	96.5	67.6	123.0	8.3	76.5	17.0
AT	59.2	117.8	78.8	105.9	9.6	70.5	22.7
PL	31.6	59.1	92.5	102.9	11.7	77.0	11.3
PT	66.0	118.6	91.6	98.5	:	75.1	:
SI	46.1	89.0	92.3	100.7	:	74.0	15.2
SK	38.2	74.9	96.4	99.8	:	67.4	24.6
FI	35.5	66.1	89.4	107.5	:	61.0	33.7
SE	48.1	81.1	89.5	117.5	:	65.3	30.9
UK	46.7	83.8	82.9	116.8	12.8	70.8	16.4

(1) Belgium, the Netherlands and Austria, 2003; Hungary, 2000.

Source: Eurostat, Eurostat, Labour market, Total employment - LFS series

21.3: FINANCIAL AUXILIARIES

Activities auxiliary to financial intermediation have a supporting function in capital markets, performing a complementary role to banking and insurance activities. The activities covered in this subchapter are classified under NACE Division 67, covering the provision of services involved in or closely related to financial intermediation, but not themselves involving financial intermediation. The definition includes the administration of financial markets, securities and mortgage broking, and fund management (NACE Group 67.1), as well as activities of insurance brokers and agents (NACE Group 67.2).

Fund management

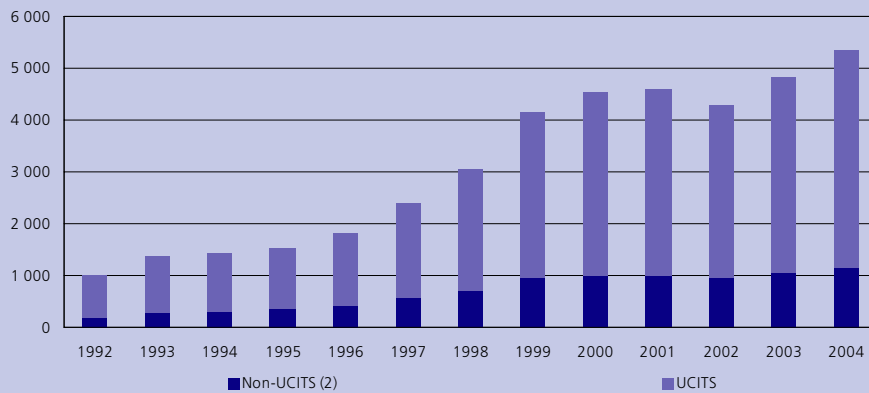
An investment fund is a financial investment vehicle aimed at private or institutional investors and spreads risks by use of a portfolio, with investments spread across shares, bonds or property. Funds can be distinguished between open-ended funds and closed-ended ones, the latter having a fixed number of shares/units that are quoted on an exchange, and the former having an unlimited number of shares/units. A major step in the development of open-ended funds within Europe came with the introduction of Council Directive 85/611/EEC of 20 December 1985 on the co-ordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS). As well as its stated harmonisation goal, this directive provided protection to investors. Other funds are permitted within the EU, according to

national regulations. In July 2005 the European Commission adopted a Green Paper on the enhancement of the EU framework for investment funds ⁽²³⁾ (the 'UCITS review') and a White Paper is expected in 2006.

⁽²³⁾ COM(2005) 314.

Figure 21.7

Net assets of the European investment funds industry (EUR million) (1)

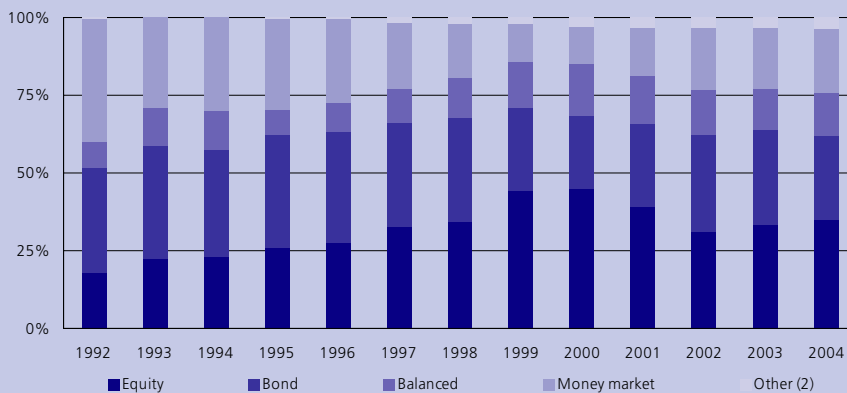


(1) EU-15, plus the Czech Republic, Hungary, Poland, Slovakia, Turkey, Liechtenstein, Norway and Switzerland.
 (2) Undertaking for collective investment in transferable securities: a collective investment fund that complies with Directive (85/611/EEC) of 20 October 1985.

Source: European Fund and Asset Management Association (EFAMA), Fact Book 2005

Figure 21.8

Total net assets of UCITS, European average (%) (1)



(1) EU-15 excluding Ireland, plus the Czech Republic, Hungary, Poland, Slovakia, Turkey, Liechtenstein, Norway and Switzerland.

(2) Including funds of funds.

Source: European Fund and Asset Management Association (EFAMA), Fact Book 2005

Table 21.9

Net assets of funds invested in transferable securities and money market instruments, end 2004 (EUR billion)

	Total net assets	of which, UCITS
BE	98.8	93.4
CZ	3.6	3.6
DK	77.2	47.6
DE	855.0	224.7
EL	33.0	31.7
ES	237.5	233.1
FR	1 110.3	1 006.5
IE	434.6	:
IT	396.9	375.7
LU	1 106.2	1 025.0
HU	4.4	3.8
NL	89.1	74.6
AT	125.3	89.0
PL	9.3	8.8
PT	31.5	23.4
SK	1.6	1.6
FI	30.8	27.7
SE	81.4	79.9
UK	486.6	376.5
Total (1)	4 778.6	3 726.6

(1) Excluding Ireland.

Source: European Fund and Asset Management Association (EFAMA), Fact Book 2005

Figure 21.7 shows the growth in net assets over more than a decade (from 1992 to 2004) for UCITS and non-UCITS funds among 23 European countries, according to EFAMA (24). Both categories of assets recorded growth each year during this period, except in 2002. Overall growth averaged 14.9 % per annum, with an average of 16.4 % per annum for non-UCITS net assets and 14.6 % per annum for UCITS net assets. By 2004 the net assets managed in investment funds in these 23 European countries were valued at EUR 5.3 billion, of which 78.4 % were UCITS. Table 21.9 shows the same breakdown for 2004 for most of the Member

(24) EFAMA (the European Fund and Asset Management Association), more information at: <http://www.efama.org>; data refer to the EU-15, the Czech Republic, Hungary, Poland, Slovakia, Turkey, Liechtenstein, Norway and Switzerland.

States. The largest value of UCITS funds managed in the EU was in Luxembourg and France, with EUR 1.0 trillion UCITS net assets each. The high value of assets managed in Ireland (EUR 435 billion) is also worth noting.

As well as the classification between open and closed-ended funds, a further distinction can be made between funds specialising in investments in equities, bonds and money markets, or balanced funds with a mix of these three types of investments. Figure 21.8 shows the change in the composition of the net assets of UCITS, notably displaying the increase in the importance of equity funds throughout the 1990s and their subsequent decline in 2001 and 2002 as stock market indices fell, followed by a more modest increase in their share in 2003 and 2004.

Agents and brokers:

insurance, pension funds and mortgages

The distribution channels of insurance, investment funds, pension and mortgage policies vary greatly between countries and work either through direct writing by fund, insurance or credit granting enterprises or through intermediaries. Two types of intermediaries can be distinguished, captive/exclusive agents working exclusively for one enterprise (selling only their products) and independent agents or brokers representing several enterprises. Intermediaries provide professional advice to clients to assist them in their choice of policies, and in the case of insurance policies provide assistance in making claims.

Box 21.1: Euronext

Euronext is the result of the merger of the Amsterdam, Brussels, Lisbon and Paris exchanges, providing public offerings and trading services for stock and derivatives markets in these exchanges as well as for derivatives through the London International Financial Futures Exchange (LIFFE). Euronext also offers post-trade services for clearing (through LCH.Clearnet), settlement and custody.

Exchanges

According to FESE ⁽²⁵⁾ the main stock exchanges in the EU in terms of capitalisation and trading are London, Euronext (see Box 21.1), the Deutsche Börse, the Spanish exchanges (BME, which include Barcelona, Bilbao, Madrid and Valencia) and the Italian exchange - see Table 21.10 for more details. In turnover terms, the Spanish and London exchanges are the largest bond markets in the EU with EUR 2 859 billion and EUR 2 236 billion of traded bonds in 2004, followed by the Stockholm and Copenhagen exchanges - see Table 21.11. There has been considerable attention to possible further rationalisation among exchanges, particularly concerning offers for the London exchange, and this has raised competition issues with respect to the relation between exchanges and post-trade services, such as clearing and settlement.

⁽²⁵⁾ FESE (the Federation of European Securities Exchanges), more information at: <http://www.fese.be>.

Table 21.10
Capitalisation (year end) and domestic equity trading, 2004 (EUR million)

Exchange		Market capitalisation	Electronic order book transactions	Negotiated deals	Total value of equity trading
Prague Stock Exchange	CZ	21 720	240	13 310	13 550
Copenhagen Stock Exchange (OMX)	DK	111 349	50 160	27 754	77 914
Deutsche Börse	DE	878 806	869 082	258 538	1 127 619
Athens Exchange	EL	92 140	29 349	5 659	35 009
Spanish Exchanges (BME)	ES	692 053	630 396	326 473	956 869
Irish Stock Exchange	IE	83 933	4 397	31 036	35 433
Italian exchange	IT	580 881	660 559	39 916	700 475
Cyprus Stock Exchange	CY	3 588	195	0	195
Vilnius Stock Exchange (OMX)	LT	4 755	149	167	316
Luxembourg Stock Exchange	LU	36 891	292	-	292
Budapest Stock Exchange	HU	21 039	10 340	402	10 742
Malta Stock Exchange	MT	2 089	75	:	75
Euronext		1 796 036	1 518 945	428 126	1 947 071
Wiener Börse	AT	64 577	19 075	-	19 075
Warsaw Stock Exchange	PL	51 888	11 976	949	12 926
Ljubljana Stock Exchange (1)	SI	7 115	520	324	844
Bratislava Stock Exchange	SK	3 239	209	320	529
Helsinki Stock Exchange (OMX)	FI	135 196	138 142	38 161	176 304
Stockholm Stock Exchange (OMX)	SE	277 992	248 839	82 305	331 143
London Stock Exchange	UK	2 071 775	1 244 775	1 116 093	2 360 868
Total of available data		6 937 063	5 437 716	2 369 534	7 807 249

(1) Excluding trading in May 2004.

Source: Federation of European Securities Exchanges; domestic equity trading compiled from monthly trading figures

Table 21.11
Bond turnover, 2004 (EUR million)

Exchange		Electronic order book transactions	Negotiated deals	Total
Prague Stock Exchange	CZ	1	21 641	21 642
Copenhagen Stock Exchange (OMX)	DK	46 099	902 756	948 855
Deutsche Börse	DE	33	354 961	354 994
Athens Exchange	EL	81	13	94
Spanish Exchanges (BME)	ES	402 137	2 457 163	2 859 300
Irish Stock Exchange	IE	-	36 217	36 217
Italian exchange	IT	151 171	:	151 171
Cyprus Stock Exchange	CY	12	0	12
Vilnius Stock Exchange (OMX)	LT	5	636	641
Luxembourg Stock Exchange	LU	592	-	592
Budapest Stock Exchange	HU	1 064	65	1 129
Malta Stock Exchange	MT	142	:	142
Euronext		19 799	166 368	186 168
Wiener Börse	AT	360	-	360
Warsaw Stock Exchange	PL	881	62	943
Ljubljana Stock Exchange	SI	111	364	476
Bratislava Stock Exchange	SK	351	9 945	10 296
Helsinki Stock Exchange (OMX)	FI	-	23	23
Stockholm Stock Exchange (OMX)	SE	360	1 237 043	1 237 402
London Stock Exchange	UK	0	2 235 843	2 235 843
Total of available data		623 199	7 423 100	8 046 299

Source: Federation of European Securities Exchanges

Table 21.12

Activities auxiliary to financial intermediation (NACE Division 67)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	55.0	99.0	84.7	105.5	9.5	69.9	20.6
BE	67.3	114.2	67.3	85.6	:	61.5	27.2
CZ	27.0	50.5	95.6	101.4	7.4	66.4	26.1
DK	:	:	86.4	116.3	:	:	:
DE	63.1	121.3	84.7	115.2	6.5	68.7	24.8
EE	:	:	:	:	:	:	:
EL	55.0	90.6	100.0	104.0	:	91.9	:
ES	63.6	113.2	96.0	106.6	:	70.5	22.8
FR	50.3	89.4	91.1	107.5	8.3	73.4	23.8
IE	49.1	90.7	90.4	114.6	18.3	70.4	:
IT	65.0	109.5	88.2	104.6	10.3	81.6	17.5
CY	54.7	103.2	94.6	103.2	31.0	77.4	:
LV	:	:	:	:	:	:	:
LT	:	:	:	:	:	:	:
LU	59.3	100.1	86.0	101.5	:	77.4	:
HU	:	:	96.5	101.9	:	82.8	:
MT	:	:	:	:	:	:	:
NL	55.3	95.5	62.5	113.7	12.0	67.3	24.6
AT	56.8	112.9	74.8	100.5	:	79.6	:
PL	42.9	80.1	87.0	96.8	:	85.0	:
PT	:	:	:	:	:	:	:
SI (3)	:	:	94.2	99.5	:	88.7	:
SK	:	:	100.0	103.5	:	88.6	:
FI	51.5	96.0	92.0	110.6	:	62.0	:
SE	50.9	86.0	82.4	108.2	:	69.6	24.5
UK	51.7	92.7	84.0	118.3	14.8	66.5	18.7

(1) France and the Netherlands, 2003; Italy and Cyprus, 2001.

(2) Belgium, 2002.

(3) 2002.

Source: Eurostat, Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

According to the Labour Force Survey, employment in the EU-25's financial auxiliaries sector (NACE Division 67) covered 928 200 persons in 2004. This sector was dominated by the United Kingdom and Germany in employment terms, with workforces of 382 500 and 191 700 persons respectively, together accounting for 61.9 % of the EU-25 total: no other Member State ⁽²⁶⁾ had a double-digit share of the EU-25 workforce. In most Member States the financial auxiliaries sector contributed less than 1 % of services (NACE Sections G to K) employment in 2004, and only in three Member States did the share exceed 2 %, namely Ireland (2.3 %), Luxembourg (2.4 %) and the United Kingdom (3.3 %).

Men made up 55.0 % of the financial auxiliaries workforce in the EU-25 in 2004, a higher share than for either of the other financial services NACE divisions which both

recorded a more gender-balanced workforce, but a fairly typical share for services in general. The two largest workforces in this sector had a very different gender composition: the German workforce was male dominated with men accounting for 63.1 % of the workforce, while the British financial auxiliaries' workforce was nearly balanced in this respect, with men accounting for 51.7 % of the total.

In terms of the incidence of part-time work, the financial auxiliaries workforce was similar to the other parts of financial services, as 84.7 % of those employed in the EU-25 in 2004 worked full-time, compared with a financial services (NACE Section J) average of 85.7 %. This was nevertheless 4.4 percentage points higher than the services average.

The age structure of the EU-25's financial auxiliaries workforce was similar to that in the other two financial services NACE divisions,

although the proportion of younger workers (aged less than 25) was highest in this sector, at 9.5 %, but this was still 3.5 percentage points below the services average (see Table 21.12). As in the other financial services NACE divisions the relative importance of those aged between 25 and 49 in the financial auxiliaries workforce was quite high at 69.9 %, some 3.8 percentage points above the services average. Both Germany and the United Kingdom displayed these characteristics, with an above average proportion of workers aged 25 to 49 and a lower than average proportion of younger workers. The main difference between their two workforces was the relatively low proportion of older workers (aged 50 or more) in the financial auxiliaries sector in the United Kingdom (18.7 %), 4.5 percentage points below the British services average, and the higher proportion in Germany (24.8 %), slightly above the German services average (24.0 %).

⁽²⁶⁾ Estonia, Latvia, Lithuania, Malta, Portugal and Slovenia, not available.

Table 21.13

Other monetary intermediation; other credit granting (NACE Class 65.12 and Group 65.2)

Main indicators, 2003 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Production (EUR million)	: 13 348	3 393	10 464	127 700	263 7 154	34 779	82 192	: 68 741	993	: 254 8 924	3 301	:	:	:	:	:	:
Value added at factor cost (EUR million)	: 8 732	2 053	7 958	:	: 181 5 275	23 570	49 992	: 38 924	798	: 147 5 958	2 156	:	:	:	:	:	:
Gross operating surplus (EUR million)	: 3 911	1 318	4 821	:	: 115 2 834	10 673	24 733	: 17 195	425	: 55 4 182	1 368	:	:	:	:	:	:
Purchases of goods and services (EUR million)	: 4 616	1 340	2 506	45 380	82 1 879	11 209	32 200	: 29 817	195	: 107 2 966	1 144	:	:	:	:	:	:
Gross investment in tangible goods (EUR million)	: 243	151	200	:	: 8	: 2 137	1 069	: 37 595	77	: 26	: 156	:	:	:	:	:	:
Number of persons employed (thousands)	: 71	39	46	751	4	59 244	380 41	: 342	9 9	: 9	24 36	:	:	:	:	:	:
Personnel costs (EUR million)	: 4 821	735	3 138	44 292	66 2 441	12 897	25 259 1 835	: 21 729	374	: 92 1 776	789	:	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	: 123.0	52.5	171.5	:	: 47.0	88.9	96.7	: 131.4	114.0	: 93.4	16.7	: 251.2	60.4	:	:	:	:
Average personnel costs (EUR thous./employee)	: 68.0	19.3	67.6	59.0	17.2	: 52.9	66.4	: 43.7	:	: 22.3	:	:	:	:	:	:	:
Wage adjusted labour productivity (%)	: 180.9	272.1	253.6	:	: 272.9	: 182.8	197.9	: 213.6	:	: 270.8	:	:	:	:	:	:	:
Investment per person employed (EUR thousand)	: 3.4	3.9	4.3	:	: 2.1	: 8.8	2.8	: 110.1	9.0	: 2.9	4.4	:	:	:	:	:	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Production (EUR million)	24 736	12 876	6 796	7 428	1 026	: 4 057	10 103	126 692	595	:	:	:	:	728	: 7 244	:	:
Value added at factor cost (EUR million)	17 169	8 437	4 514	5 237	747	: 2 459	6 494	68 573	355	:	:	:	:	493	:	:	:
Gross operating surplus (EUR million)	9 143	3 906	2 511	3 087	432	: 1 327	3 642	44 508	216	:	:	:	:	289	:	:	:
Purchases of goods and services (EUR million)	7 567	4 438	2 283	2 191	278	: 1 747	3 609	58 119	239	:	:	:	:	235	: 2 522	7 148	:
Gross investment in tangible goods (EUR million)	1 155	: 393	146	0	: -468	0	6 431	147	:	:	:	:	:	0	: 201	:	:
Number of persons employed (thousands)	122	73	152	56	12	22 27	: 453	21	:	:	:	:	:	4	: 26	108	:
Personnel costs (EUR million)	8 026	4 531	2 003	2 150	315	: 1 132	2 851	24 065	139	:	:	:	:	204	: 1 932	11 012	:
App. labour productivity (EUR thous./pers. emp.)	140.2	115.1	29.7	94.2	64.6	: 92.2	: 151.5	16.9	:	:	:	:	:	133.4	:	:	:
Average personnel costs (EUR thous./employee)	65.6	61.8	13.2	38.7	27.7	: 45.2	: 52.9	6.7	:	:	:	:	:	55.2	: 73.2	102.4	:
Wage adjusted labour productivity (%)	213.9	186.2	225.1	243.6	233.5	: 203.8	: 286.2	252.4	:	:	:	:	:	241.7	:	:	:
Investment per person employed (EUR thousand)	9.4	: 2.6	2.6	0.0	: -17.5	: 14.2	7.0	:	:	:	:	:	:	0.0	: 7.6	:	:

(1) Spain, Italy, Portugal, Sweden, the United Kingdom, Iceland and Norway, 2002; Germany, Ireland, Latvia, Lithuania and Luxembourg, 2001; Slovakia, 2000; Latvia, provisional; Ireland, licensed banks and branches.

Source: Eurostat, Industry, trade and services, Financial services, Statistics on credit institutions

Table 21.14

Life insurance (NACE Class 66.01)

Main indicators, 2001 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	: :	: 8 145	62 458	23	: 8 207	38 840	: 37 580	: 8	19 5 389	255	:	:	:	:	:	:	:
Value added at factor cost (EUR million) (2)	: :	: -61	3 310	:	: 6 684	:	:	:	:	:	:	:	:	:	:	32	:
Gross operating surplus (EUR million)	: :	: -181	:	:	: 6 376	:	:	:	:	:	:	:	:	:	:	21	:
Purchases of goods and services (EUR million) (2)	: :	: 10 300	:	:	: 321	:	:	:	:	:	:	:	:	:	:	75	:
Number of persons employed (thousands)	: :	: 2	58	0	: 2	:	: 3	:	0	0	1	3	:	:	:	:	:
Personnel costs (EUR million)	: :	: 121	3 525	2	: 308	918	: 204	: 2	3	96	11	:	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	: :	: -33.0	:	:	: 2 706.1	:	:	:	:	:	:	:	:	:	:	10.3	:
Gross operating rate (%)	: :	: -2.2	:	:	: 77.7	:	:	:	:	:	:	:	:	:	:	8.1	:
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	25 814	534	2 522	3 039	:	52 3 330	13 000	175 944	45	:	:	:	:	22	: 4 430	27 015	:
Value added at factor cost (EUR million)	6 046	:	: 107	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Gross operating surplus (EUR million)	4 989	:	: 54	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Purchases of goods and services (EUR million)	2 731	:	: 48	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Number of persons employed (thousands) (3)	9	0	9	1	: 1	1	4	: 1	:	:	:	:	:	0	: 2	16	:
Personnel costs (EUR million) (3)	1 057	3	189	53	: 3	58	265	: 3	:	:	:	:	:	2	: 165	:	:
App. labour productivity (EUR thous./pers. emp.)	643.2	:	: 120.9	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Gross operating rate (%)	19.3	:	: 1.8	:	:	:	:	:	:	:	:	:	:	:	:	:	:

(1) France, Austria and Norway, 2000. (2) Germany, 2000. (3) Slovakia, 2000.

Source: Eurostat, Industry, trade and services, Financial services, Insurance services

Table 21.15

Autonomous pension funding (NACE Class 66.02)

Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	: 1 788	571	75	17 941	11	: 13 680	: 3 624	: 7	: 805	:	:	:	:	:	:	:	:
Production (EUR million)	: 212	132	-140	1 651	0	: 4 000	: 9	: 44	:	:	:	:	:	:	:	:	:
Value added at factor cost (EUR million)	: 110	-143	: 0	: 3 435	: 8	: 8	:	:	:	:	:	:	:	:	:	:	:
Gross operating surplus (EUR million)	: 100	-145	: 0	: 3 435	: 0	:	:	:	:	:	:	:	:	:	:	:	:
Purchases of goods and services (EUR million)	: 162	22	3	383	0	: 565	: 0	: 37	:	:	:	:	:	:	:	:	:
Gross investment in tangible goods (EUR million)	: 2	: 184	0	: 104	: 0	:	:	:	:	:	:	:	:	:	:	:	:
Number of persons employed (thousands)	: 0	1	0	5	0	: 0	: 0	: 0	:	:	:	:	:	:	:	:	:
Personnel costs (EUR million)	: 2	10	2	256	0	: 0	: 8	:	:	:	:	:	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	: 196.2	-3 575.0	: 18.9	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Gross operating rate (%)	: 17.5	-193.3	: 0.0	: 25.1	: 0.0	:	:	:	:	:	:	:	:	:	:	:	:
Investment per person employed (EUR thousands)	: 3.0	: 39.2	: 0.0	: 25.1	: 0.0	:	:	:	:	:	:	:	:	:	:	:	:

	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	19 398	702	31	2 646	42	: 208	: 40 526	: 662	: 1 200	33 674	:	:	:	:	:	:	:
Production (EUR million)	-63 872	-173	: 1 287	6	: 35	: 553	:	:	:	:	:	:	:	:	:	:	:
Value added at factor cost (EUR million)	-64 268	-205	: 2 160	3	: 35	: 525	:	:	:	:	:	:	:	:	:	:	:
Gross operating surplus (EUR million)	-64 643	-219	: 2 160	0	: 30	: 508	:	:	:	:	:	:	:	:	:	:	:
Purchases of goods and services (EUR million)	397	32	: 100	3	: 1	: 27	:	:	:	:	:	:	:	:	:	:	:
Gross investment in tangible goods (EUR million) (2)	0	358	: 0	637	0	: 752	: 1	: 525	:	:	:	:	:	:	:	:	:
Number of persons employed (thousands) (3)	8	0	: 0	: 0	: 0	: 0	: 0	: 0	:	:	:	:	:	:	:	:	:
Personnel costs (EUR million)	375	15	: 0	3	: 5	: 18	:	:	:	:	:	:	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	-7 651.0	-725.2	: 1 751.3	: 573.8	: 14.4	: 42.3	:	:	:	:	:	:	:	:	:	:	:
Gross operating rate (%)	-333.2	-31.2	: 81.6	0.2	: 14.4	: 42.3	:	:	:	:	:	:	:	:	:	:	:
Investment per person employed (EUR thousands)	0.0	1 269.5	: 3.7	: 0.0	: 0.0	: 0.0	:	:	:	:	:	:	:	:	:	:	:

(1) The Netherlands, provisional; Germany, estimates, 2000. (2) Slovenia, 2001. (3) Sweden, 2001.
Source: Eurostat, Industry, trade and services, Financial services, Statistics on pension funds

Table 21.16

Non-life insurance (NACE Class 66.03)

Main indicators, 2001 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	: 4 578	103	4 226	79 128	94	: 8 981	43 892	: 11 117	: 166	114	831	18	:	:	:	:	:
Value added at factor cost (EUR million) (2)	: 15 230	: 14 029	: 13 178	: 8	: 5	:	:	:	:	:	:	:	:	:	:	:	:
Gross operating surplus (EUR million)	: 13 178	: 8	: 13 178	: 8	: 5	:	:	:	:	:	:	:	:	:	:	:	:
Purchases of goods and services (EUR million) (2)	: 1 135	: 8	: 1 135	: 8	: 5	:	:	:	:	:	:	:	:	:	:	:	:
Number of persons employed (thousands)	: 7	1	12	158	1	: 18	: 12	: 0	4	1	1	:	:	:	:	:	:
Personnel costs (EUR million)	: 515	9	729	8 509	13	: 851	4 119	: 1 014	: 22	23	75	7	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	: 768.6	: 6.4	: 768.6	: 6.4	: 146.7	: 6.4	: 146.7	: 6.4	: 146.7	: 6.4	: 146.7	: 6.4	:	:	:	:	:
Gross operating rate (%)	: 146.7	: -11.5	: 146.7	: -11.5	: 146.7	: -11.5	: 146.7	: -11.5	: 146.7	: -11.5	: 146.7	: -11.5	:	:	:	:	:

	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	18 219	1 742	3 574	1 828	: 12	2 671	8 017	50 611	201	: 249	: 3 159	25 458	:	:	:	:	:
Value added at factor cost (EUR million)	1 488	: 357	: 1 488	: 357	: 1 488	: 357	: 1 488	: 357	: 1 488	: 357	: 1 488	: 357	:	:	:	:	:
Gross operating surplus (EUR million)	175	: 134	: 175	: 134	: 175	: 134	: 175	: 134	: 175	: 134	: 175	: 134	:	:	:	:	:
Purchases of goods and services (EUR million)	2 677	: 94	: 2 677	: 94	: 2 677	: 94	: 2 677	: 94	: 2 677	: 94	: 2 677	: 94	:	:	:	:	:
Number of persons employed (thousands) (3)	38	1	23	5	: 0	10	14	: 3	: 0	5	39	:	:	:	:	:	:
Personnel costs (EUR million) (3)	1 313	51	312	222	: 2	325	706	: 12	: 25	: 277	:	:	:	:	:	:	:
App. labour productivity (EUR thous./pers. emp.)	39.1	: 66.2	: 39.1	: 66.2	: 39.1	: 66.2	: 39.1	: 66.2	: 39.1	: 66.2	: 39.1	: 66.2	:	:	:	:	:
Gross operating rate (%)	1.0	: 7.4	: 1.0	: 7.4	: 1.0	: 7.4	: 1.0	: 7.4	: 1.0	: 7.4	: 1.0	: 7.4	:	:	:	:	:

(1) France, Austria and Norway, 2000. (2) Germany, 2000. (3) Slovakia, 2000.
Source: Eurostat, Industry, trade and services, Financial services, Insurance services

Business services



Business services enterprises enable their clients to focus on their own activities and reduce the need to occupy their own personnel on ancillary or supporting tasks or, in the case of renting and leasing services, to commit their own capital. It is widely believed that outsourcing of activities such as those covered by this chapter have increased within the EU and continue to do so.

At the beginning of 2004, the European Commission proposed a directive to create a real internal market in services ⁽¹⁾. Requirements were that Member States cut administrative burdens and excessive red tape that can currently prevent enterprises from offering their services across borders or from opening premises in other Member States. Services covered include, among many others, professional services such as consulting, architecture, engineering or legal advice, as well as technical testing, data processing, employment and advertising agencies and security services. The scope of the proposed directive is not limited to business services, as it also extends to cover, among others, retail services, travel agencies, hotels, restaurants and entertainment, as well as health services and environmental services. This ambitious proposal has however been criticised, particularly in campaigns preceding various referenda on the Treaty establishing a constitution for Europe. At the time of writing the original wide-ranging proposal is the subject of discussions at the European Parliament where in excess of 1 000 amendments have been tabled - after this first reading in the European Parliament it is likely that the European Commission will make amendments to the proposal.

⁽¹⁾ The full texts of the proposal and impact assessment are available at:
http://www.europa.eu.int/comm/internal_market/en/services/services/index.htm.

STRUCTURAL PROFILE

Value added generated in 2002 by the EU-25 business services sector was EUR 631.1 billion and there were 16.7 million persons employed in this sector. As such, the business services sector accounted for nearly one quarter (24.3 %) of both value added and employment in non-financial services (NACE Sections G to I and K). Other business activities (NACE Division 74) generated EUR 555.1 billion of value added in the EU-25 in 2002, and therefore contributed the vast majority (88.0 %) of the EU-25's business services value added. Renting and leasing (NACE Division 71) accounted for 9.6 % of sectoral value added and the activity of research and development (NACE Division 73) for the remaining 2.5 %. At the NACE group level (see Figure 22.1 overleaf) the largest activity was legal, accounting and management services (NACE Group 74.1) which alone was responsible for 33.9 % of all business services value added - see Subchapter 22.3. Approximately half this size was the activity of architectural and engineering activities and technical testing (NACE Groups 74.2 and 74.3 - see Subchapter 22.4) which when combined contributed 16.5 % of business services value added. Two other NACE groups contributed more than 10 % of business services value added, namely miscellaneous business activities (NACE Group 74.8 - see Subchapter 22.9) and labour recruitment and provision of personnel (NACE Group 74.5 - see Subchapter 22.6) which had shares of 11.4 % and 10.8 % respectively.

In this chapter, the term business services is used to refer to the aggregate of three activities: renting and leasing (NACE Division 71, covered in Subchapter 22.1); research and development (NACE Division 73, covered in Subchapter 22.2) and other business activities (NACE Division 74, the components of which are covered in Subchapters 22.3 to 22.9). As well as these three divisions, NACE Section K also covers real estate services (NACE Division 70) and computing services (NACE Division 72), which are included as parts of Chapter 15 and Chapter 23 respectively.

NACE

- 71: renting of machinery and equipment without operator and of personal and household goods;
- 71.1: renting of automobiles;
- 71.2: renting of other transport equipment;
- 71.3: renting of other machinery and equipment;
- 71.4: renting of personal and household goods n.e.c.;
- 73: research and development;
- 73.1: research and experimental development on natural sciences and engineering;
- 73.2: research and experimental development on social sciences and humanities;
- 74: other business activities;
- 74.1: legal, accounting, book-keeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy; holdings;
- 74.2: architectural and engineering activities and related technical consultancy;
- 74.3: technical testing and analysis;
- 74.4: advertising;
- 74.5: labour recruitment and provision of personnel;
- 74.6: investigation and security activities;
- 74.7: industrial cleaning;
- 74.8: miscellaneous business activities n.e.c.

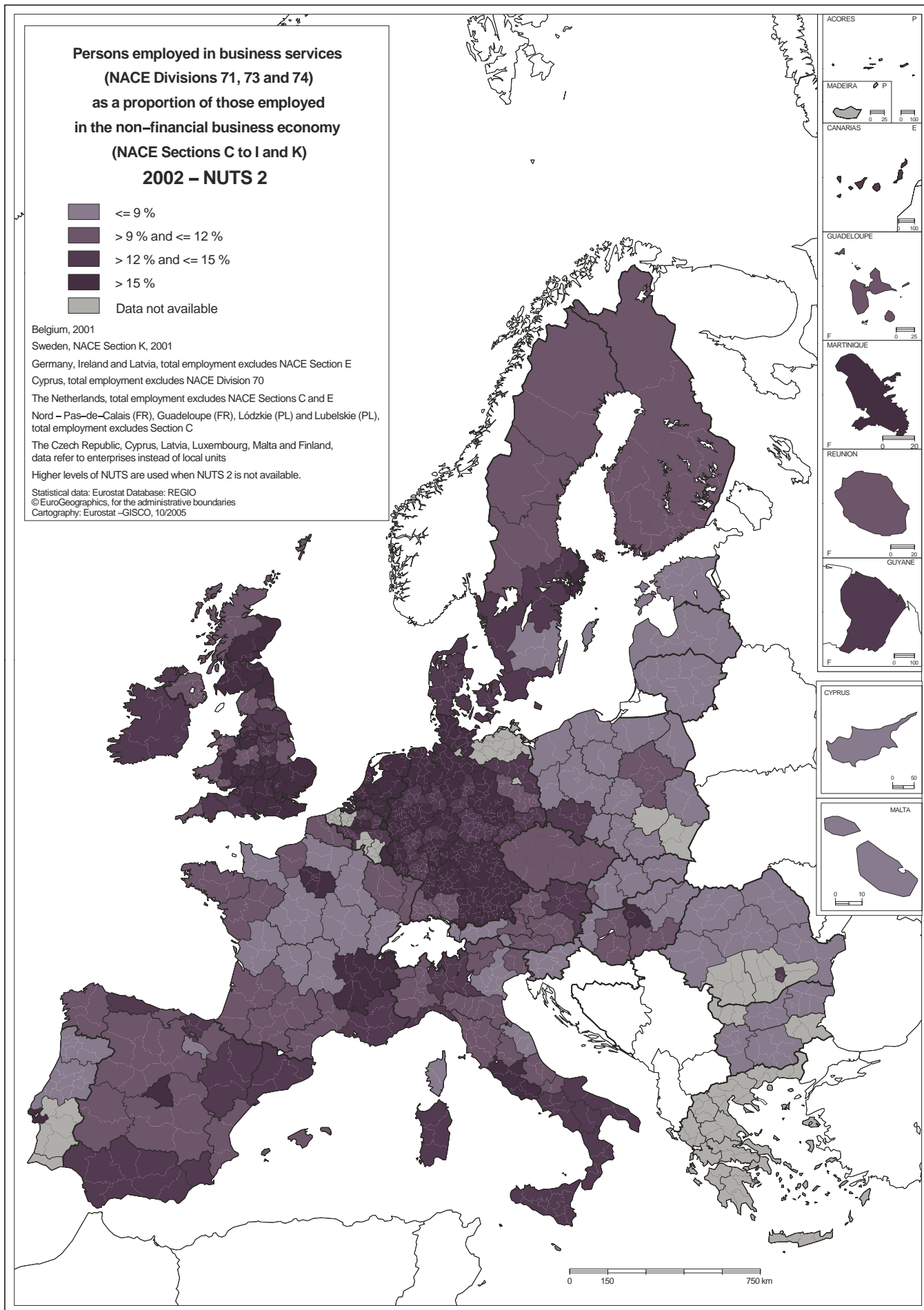


Table 22.1
Business services (NACE Divisions 71, 73 and 74)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Business services	631 104	24.3	16 732	24.3
Renting and leasing	60 441	2.3	570	0.8
Research and development	15 568	0.6	378	0.5
Other business activities	555 095	21.4	15 785	23.0
Legal, accounting and management services	214 159	8.2	4 162	6.1
Architectural and engineering activities; technical testing and analysis	104 042	4.0	2 307	3.4
Advertising	35 522	1.4	896	1.3
Labour recruitment and provision of personnel	68 451	2.6	2 632	3.8
Investigation and security activities	20 095	0.8	1 013	1.5
Industrial cleaning	40 887	1.6	2 720	4.0
Miscellaneous business activities	71 939	2.8	2 055	3.0

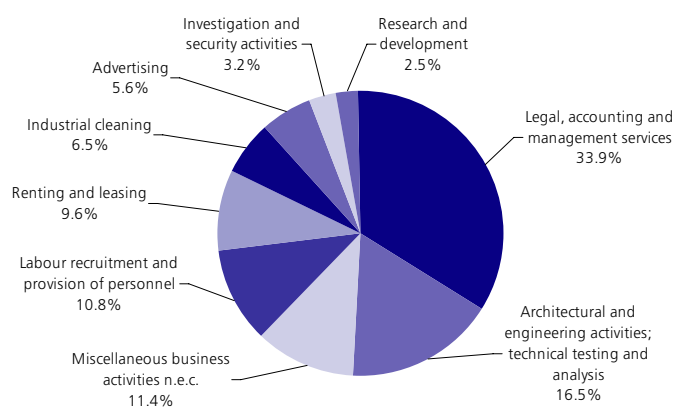
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

In employment terms the importance of other business activities was even greater as this NACE division provided employment for 94.3 % of the EU-25's business services workforce in 2002, while the share of renting and leasing activities was just 3.4 % and that of research and development 2.3 %, both below their value added shares (particularly for renting and leasing activities). Among the NACE groups that constitute other business activities, investigation and security activities (NACE Group 74.6 - see Subchapter 22.7) and industrial cleaning services (NACE Group 74.7 - see Subchapter 22.8) both accounted for a much larger share of business services employment than they did for value added, in particular industrial cleaning services whose share of employment was 2.5 times as high at 16.3 % - see Figure 22.2.

The United Kingdom, with EUR 170.1 billion of value added, accounted for the largest share (26.9 %) of the EU-25's business services sector in 2002. Germany generated EUR 130.4 billion of value added and was the second largest contributor with a 20.7 % share. The only other Member State with a share of EU-25 value added above 10 % was France (15.5 %). In terms of its contribution to value added in the non-financial services sector (NACE Sections G to I and K), business services represented 29.6 % of the total in the United Kingdom, and around 25 % in Germany, France (2001) and the Benelux Member States ⁽²⁾. In most of the other Member States business services generated between 15 % and 20 % of non-financial services value added, with Poland, Malta, and the Baltic Member States reporting shares below this level, notably

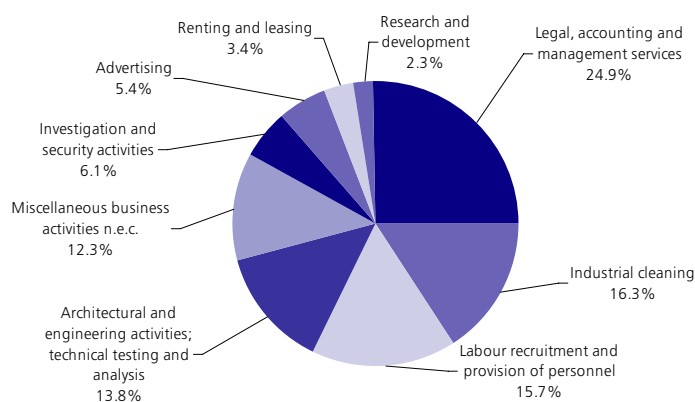
⁽²⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Figure 22.1
Business services (NACE Divisions 71, 73 and 74)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 22.2
Business services (NACE Divisions 71, 73 and 74)
Breakdown of sectoral employment, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.2

Business services (NACE Divisions 71, 73 and 74)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added		Non-financial services employment	
	Share of EU-25 value added (%) (1)	specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	specialisation (EU-25=100) (4)
1	United Kingdom (26.9)	United Kingdom (120.2)	United Kingdom (20.1)	Luxembourg (132.0)
2	Germany (20.7)	Germany (106.6)	Germany (18.6)	Netherlands (130.8)
3	France (15.5)	Netherlands (103.6)	France (13.7)	Germany (116.6)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

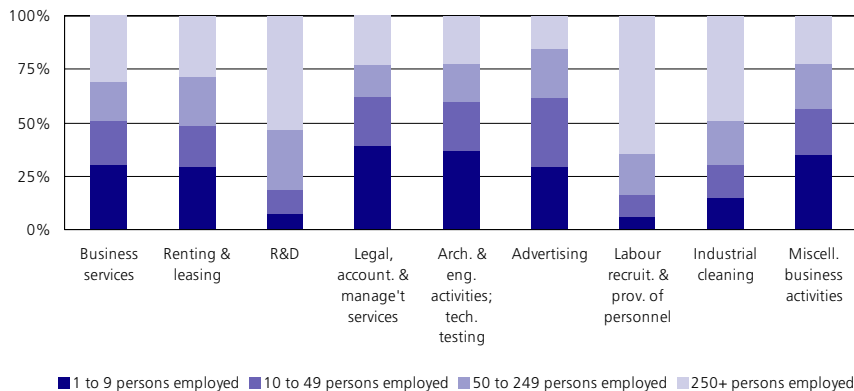
(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 22.4

Business services (NACE Divisions 71, 73 and 74)
Share of value added by enterprise size class, EU-25, 2001


Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

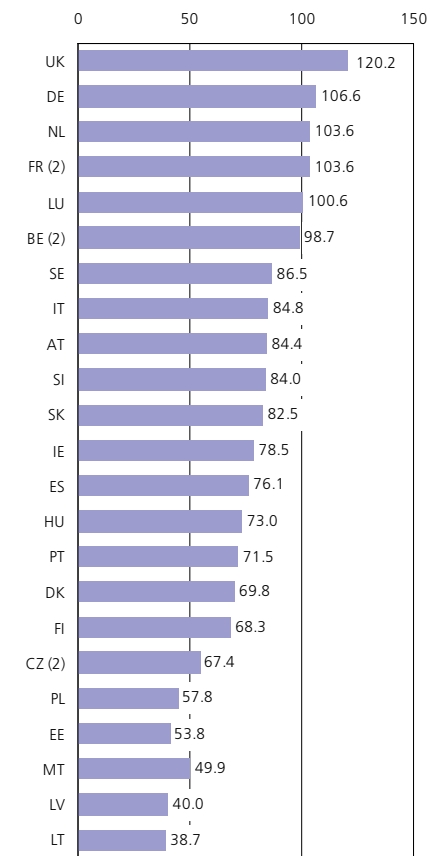
Lithuania (9.4 %) and Latvia (9.7 %), the only Member States where the share of business services was below 10 %. In most Member States business services accounted for a larger proportion of non-financial services employment than of value added, the notable exceptions being Slovakia, Austria and the United Kingdom.

In 2001, a breakdown of EU-25 value added in the business services sector showed that micro enterprises (with less than 10 persons employed) generated 30.2 % of the total, a higher share than in distributive trades or transport and communications (NACE Sections G and I), but lower than for hotels and restaurants (NACE Section H). Small enterprises (with 10 to 49 persons employed) contributed 20.5 % of business services value added, a share that was again higher than in transport

and communications, but less than in distributive trades or hotels and restaurants. Medium-sized enterprises (with 50 to 249 persons employed) accounted for 18.5 % of the sector's value added, and large enterprises for 30.8 % - see Figure 22.4.

Among the three NACE divisions that compose the business services sector, the size structure of research and development activities (NACE Division 73) was distinctly different from that in the two other NACE divisions. In research and development activities 53.1 % of value added was generated by large enterprises and 28.3 % by medium-sized enterprises, giving a combined share of 81.3 %, far above the business services average of 49.3 %. This was the third highest contribution of medium-sized and large enterprises among the EU-25's non-financial services NACE

Figure 22.3

Business services
(NACE Divisions 71, 73 and 74)
Value added specialisation ratio relative to non-financial services, 2002
(EU-25=100) (1)


(1) Greece and Cyprus, not available.

(2) 2000.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

divisions⁽³⁾ in 2001, after post and telecommunications and air transport (NACE Divisions 62 and 64).

An analysis of the size structure of these three NACE divisions in terms of employment rather than value added reveals that other business activities (NACE Division 74) was the only non-financial services NACE division⁽⁴⁾ in the EU-25 where the contribution of large enterprises in 2001 was greater in employment terms than in value added terms, indicating a lower apparent labour productivity. Balancing this situation, the contribution of micro enterprises was greater in value added than employment terms, again an unusual situation among non-financial services, shared only with water and air transport services.

⁽³⁾ Real estate activities (NACE Division 70), not available; water and air transport (NACE Divisions 61 and 62), incomplete.

⁽⁴⁾ Real estate activities (NACE Division 70), not available.

Table 22.3

Business services shares of non-financial services (NACE Sections G to I and K) value added, 2002 (%)

	Total	Renting & leasing	Research & development	Legal, accounting & management services	Architectural & engineering activities; tech. testing & analysis	Advertising	Labour recruitment & provision of personnel	Investigation & security activities	Industrial cleaning	Miscellaneous business activities
EU-25	24.3	2.3	0.6	8.2	4.0	1.4	2.6	0.8	1.6	2.8
BE (1)	24.8	2.7	0.7	9.7	3.0	1.1	3.9	0.6	1.4	1.6
CZ (1)	19.1	0.8	0.5	5.3	4.7	2.1	0.4	1.4	1.2	2.7
DK	17.0	1.3	0.3	5.5	4.2	1.1	0.9	0.1	2.0	1.5
DE	25.9	2.5	0.8	9.2	5.3	1.5	1.3	0.5	1.9	2.9
EE	13.1	1.1	0.0	3.6	2.9	1.3	1.1	1.7	0.5	0.9
EL	:	:	:	:	:	:	:	:	:	:
ES	18.5	2.0	0.2	5.1	3.5	1.2	1.4	1.0	1.9	2.2
FR (1)	25.6	2.9	0.5	7.3	3.5	1.6	5.4	0.8	1.4	2.2
IE	19.1	1.6	0.3	8.7	3.5	0.6	1.1	0.7	0.9	1.8
IT	20.6	0.8	0.4	8.0	3.7	0.8	1.0	0.7	2.3	2.9
CY	:	:	:	:	:	:	:	:	:	:
LV	9.7	0.7	0.5	2.6	2.4	1.4	0.2	0.9	0.3	0.6
LT	9.4	0.5	0.1	2.1	3.5	1.1	0.1	0.9	0.3	0.9
LU	24.5	2.6	1.8	9.9	3.8	0.6	2.1	0.9	1.7	1.1
HU	17.7	2.2	0.6	5.8	3.5	0.8	0.7	1.3	0.8	2.1
MT	12.1	1.0	0.0	6.3	1.7	0.7	0.3	0.3	0.3	1.6
NL	25.2	2.4	1.1	9.0	3.6	1.3	3.7	0.6	1.7	1.8
AT	20.5	3.5	0.4	6.2	3.8	1.3	1.9	0.3	1.3	1.9
PL	14.1	0.8	0.1	3.3	3.2	1.0	0.4	1.9	0.9	2.3
PT	17.4	3.2	0.0	4.6	1.8	1.2	1.5	1.4	1.0	2.7
SI	20.4	0.1	0.7	8.1	6.6	0.7	0.3	1.2	1.4	1.2
SK	20.0	1.5	1.1	4.5	5.2	2.3	0.4	1.6	0.6	2.7
FI	16.6	1.0	0.2	4.5	4.5	1.2	1.0	0.6	2.3	1.4
SE	21.0	1.5	0.4	6.3	5.0	1.8	0.2	0.8	1.8	3.3
UK	29.2	3.0	0.8	10.1	3.8	1.6	4.3	0.8	1.0	3.7

(1) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.4

Specialisation in business services, 2002 (relative to EU-25) (1)

BE (2) Labour recruitment and provision of personnel Research and development	CZ (2) Security services Advertising	DK Industrial cleaning Architecture, engineering, technical testing
DE Architecture, engineering, technical testing Research and development	EE Security services Advertising	ES Security services Industrial cleaning
FR Labour recruitment and provision of personnel Renting	IE Legal, accountancy and management services Security services	IT Industrial cleaning Miscellaneous business activities
CY Legal, accountancy and management services Renting	LV Security services Advertising	LT Security services Architecture, engineering, technical testing
LU Research and development Legal, accountancy and management services	HU Security services Research and development	MT Legal, accountancy and management services Miscellaneous business activities
NL Research and development Labour recruitment and provision of personnel	AT Renting Architecture, engineering, technical testing	PL Security services Miscellaneous business activities
PT Security services Renting	SI Architecture, engineering, technical testing Security services	SK Security services Research and development
FI Industrial cleaning Architecture, engineering, technical testing	SE Advertising Architecture, engineering, technical testing	UK Labour recruitment and provision of personnel Research and development

(1) Two most specialised business services activities; specialisation ratio defined as the share of each subsector (see Table 22.3) in business services value added, relative to the same ratio for the EU-25; Greece, not available.

(2) 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.5

Business services (NACE Divisions 71, 73 and 74)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years
EU-25	52.8	95.0	77.9	97.1	9.5	68.3	22.2
BE	54.2	92.1	77.7	98.9	7.5	75.8	16.7
CZ	52.7	98.4	90.1	95.6	6.8	63.1	30.1
DK	57.1	96.0	74.3	100.0	14.0	62.0	24.0
DE	48.8	93.7	70.0	95.1	9.4	66.2	24.5
EE	63.7	125.7	87.5	97.0	:	63.7	23.8
EL	53.7	88.4	95.0	98.8	7.4	74.8	17.8
ES	47.7	85.0	84.8	94.1	7.4	77.1	15.5
FR	55.4	98.4	84.5	99.7	8.9	71.2	19.9
IE	51.4	94.9	83.5	105.8	14.8	66.4	18.7
IT	51.4	86.5	78.3	92.9	6.9	74.6	18.5
CY	48.4	91.3	93.1	101.6	10.5	75.3	14.1
LV	59.0	116.3	77.0	84.9	14.6	52.8	32.6
LT	55.6	105.6	93.4	99.7	14.3	69.4	20.5
LU	51.0	86.0	76.7	90.6	5.9	79.9	14.2
HU	51.3	95.4	90.6	95.7	7.9	63.9	28.3
MT	61.7	87.0	92.7	103.2	:	60.3	:
NL	56.7	98.0	56.6	102.9	13.6	67.6	18.8
AT	46.8	93.0	69.1	92.9	10.7	73.7	15.6
PL	61.1	114.0	83.1	92.4	9.3	62.3	28.4
PT	49.8	89.5	90.1	96.8	10.9	74.1	15.0
SI	50.2	96.9	85.5	93.4	10.2	70.0	19.7
SK	55.2	108.3	96.8	100.2	8.6	68.0	23.4
FI	52.2	97.2	83.4	100.3	14.2	60.6	25.2
SE	56.3	95.1	78.4	102.8	9.3	60.6	30.1
UK	55.6	99.8	76.4	107.7	11.8	60.4	27.8

(1) Lithuania, 2002.

Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

According to structural business statistics, the share of paid employees in the number of persons employed in the EU-25's business services sector (82.3 %) was slightly higher than in the non-financial services sector as a whole (81.6 %). Nonetheless, in the research and development subsector paid employees accounted for a much higher share of the number of persons employed, reaching 90.5 %. Among the NACE groups within business services the proportion of paid employees was also high for labour recruitment and provision of personnel (NACE Group 74.5) where it was 97.4 %, industrial cleaning services (NACE Group 74.7) where it was 93.5 % and investigation and security activities (NACE Group 74.6) where it was 93.0 %. The lowest rates of paid employees were recorded in the sectors where micro enterprises were the most important: architectural and engineering activities and technical testing (NACE Groups 74.2 and 74.3), miscellaneous business

activities (NACE Group 74.8) and legal, accounting and management services (NACE Group 74.1) where rates were below 75 %.

According to Labour Force Survey data (see Table 22.5), the breakdown of employment by gender shows that male employment represented 52.8 % of the total number of persons employed in the EU-25's business services sector in 2004. This share was lower than in the services sector as a whole (NACE Sections G to K, 55.6 %). However, the pattern was not the same across the three NACE divisions that compose the business services sector. Indeed, men accounted for more than two thirds of the workforce (66.9 %) in the EU-25's renting and leasing subsector. In the research and development subsector men accounted for 57.2 % of the workforce, just above the services average, while for other business services, male employment (52.1 %) was notably lower.

The proportion of men in the business services workforce was higher than the services' average in the three Baltic Member States, as well as Poland and Slovakia, most notably in Estonia where it was 13.0 percentage points higher, perhaps reflecting a specialisation in activities traditionally associated with male employment, such as security services. In Germany, Spain, Cyprus, Austria and Portugal the share of men in the number of persons employed in business services was below 50 %, while this was not the case in their services sectors as a whole.

In the EU-25's business services sector 77.9 % of the persons employed worked on a full-time basis, less than the services average of 80.3 %. Full-time employment was more important in the EU-25's research and development subsector where 87.0 % of the workforce worked full-time, and was also above the services average for the renting and leasing subsector where the equivalent proportion was

Table 22.6
Business services (NACE Divisions 71, 73 and 74)

	Apparent labour productivity (EUR thousand per person employed)	Wage adjusted labour productivity (%)	Average personnel costs (EUR thousand per employee)
Business services	37.7	133.5	28.3
Renting and leasing	106.1	370.0	28.7
Research and development	41.2	89.9	45.8
Other business activities	35.2	126.6	27.8
Legal, accounting and management services	51.5	126.8	40.6
Architectural & engineering activities; technical testing & analysis	45.1	112.3	40.2
Advertising	39.6	139.6	28.4
Labour recruitment and provision of personnel	26.0	116.7	22.3
Investigation and security activities	19.8	108.9	18.2
Industrial cleaning	15.0	116.4	12.9
Miscellaneous business activities	35.0	123.8	28.3

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

83.8 %. In the other business services subsector the full-time employment rate was 77.2 %, the third lowest among the services NACE divisions, higher only than in retail trade and hotels and restaurants (NACE Divisions 52 and 55).

The age structure of the EU-25's business services workforce was quite different from that of the services sector as a whole in 2004, most notably the low proportion of young persons (aged less than 25) in the workforce which was 9.5 % for business services compared with a services average of 12.9 %. Persons aged more than 50 made up 22.2 % of the business services workforce, 1.1 percentage points above the services average.

LABOUR AND PRODUCTIVITY

In 2002, apparent labour productivity for the business services sector was almost the same as the non-financial services average (NACE Sections G to I and K) for the EU-25 as a whole, with an average value added per person employed of EUR 37 700. Average personnel costs were however above the non-financial services average, at EUR 28 300 per employee in business services compared with EUR 25 900. In most Member States ⁽⁵⁾ average personnel costs in business services were close to or above the non-financial services average, the most notable exceptions being Italy and Spain where they were lower by 10 % or more.

⁽⁵⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

The combination of such levels of apparent labour productivity and average personnel costs led to a wage adjusted labour productivity ratio of 133.5 % for the business services sector in 2002 for the EU-25, some 12.5 percentage points below the non-financial services average. This ratio was highest for the renting and leasing subsector (370.0 %), considerably lower in the other business activities subsector (126.6 %), and lowest in the research and development subsector (89.9 %) where the value added per person employed was less than average personnel costs per employee. Care has to be taken with the ratios based on value added for the renting and leasing subsector, as in this subsector enterprises are the owner of a good that they rent or lease, and their financial and depreciation charges may constitute the main element of their total costs. These are not considered when calculating gross value added and gross operating surplus. Among the Member States ⁽⁶⁾, a large majority reported a lower wage adjusted labour productivity ratio for the business services sector than for the non-financial services sector as a whole, with Slovakia, Austria and Italy the main exceptions, as this ratio was more than 5 percentage points higher in the business services sector.

⁽⁶⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

The gross operating rate shows the percentage relationship between the gross operating surplus (value added minus personnel costs) and turnover. Despite a relatively low wage adjusted labour productivity ratio, the gross operating rate of the EU-25's business services sector was 19.2 % in 2002, 1.7 times higher than the non-financial services average. In fact, the gross operating rate of the business services sector was above the non-financial services average in every Member State ⁽⁷⁾ in 2002, except for Sweden, where it was nearly 30 % lower.

⁽⁷⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

22.1: RENTING AND LEASING

This subchapter covers the activities of renting of machinery and equipment without operators and the renting of personal and household goods (NACE Division 71). The most important items that are rented or leased are transport equipment (motor vehicles, ships, aircraft, etc.) and agricultural, construction or office equipment. It should be noted that a distinction is generally made between operational leasing (or long-term rental), which is included in this subchapter, and financial leasing which is considered as a special form of credit granting and is hence covered as part of the financial services sector (see Chapter 21). The renting and leasing of real estate is covered in Chapter 15.

In general durable goods can be purchased, leased or rented. In the case of leasing, the two parties involved in the transaction are the lessor and the lessee (the person or enterprise that uses the good in leasing). In exchange for the transfer of user rights, the lessor receives payments. Leasing, contrary to renting, often foresees the possibility of the acquisition of the good at the end of the leasing term; renting is also usually for shorter periods than leasing.

STRUCTURAL PROFILE

Value added in EU-25 renting and leasing activities (NACE Division 71) was EUR 60.4 billion in 2002, some EUR 17.6 billion (or 29.1 % of the EU-25 total) of which was generated in the United Kingdom. Value added was EUR 12.8 billion in Germany and EUR 10.4 billion in France, the equivalent of 21.1 % and 17.1 % of the EU-25 total. In 2002, EU-25 value added in renting and leasing activities accounted for 9.6 % of the wealth generated by the business services sector (NACE Divisions 71, 73 and 74) and 2.3 % of all non-financial services (NACE Sections G to I and K) value added. Austria, Portugal and the United Kingdom were all relatively specialised in the renting and leasing sector ⁽⁸⁾ which accounted for 3 % or more of their value added in non-financial services. In these terms, Slovenia and Lithuania were the least specialised in this sector, as their value added from renting and leasing activities contributed less than 0.5 % to non-financial services value added.

⁽⁸⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

The number of persons employed in the EU-25's renting and leasing activities sector was 569 700 in 2002, equivalent to 3.4 % of business services employment, and just 0.8 % of the non-financial services workforce. As such, this sector's contribution to business services output was 2.8 times greater than its contribution to employment. In all Member States with data available ⁽⁹⁾ the contribution of this sector to non-financial services value added was higher than for employment, except in Slovenia and Malta.

The renting of automobiles and other transport equipment (NACE Groups 71.1 and 71.2) generated EUR 32.0 billion of value added in the EU-25 in 2002, which was 52.9 % of the total for the renting and leasing sector. In the renting of other machinery and equipment subsector (NACE Group 71.3) the EU-25 generated EUR 22.2 billion of value added, or 36.7 % of the renting and leasing sectoral total. With a value added of EUR 6.3 billion, the renting of personal and household goods

⁽⁹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.7

**Renting of machinery and equipment without operator and of personal and household goods (NACE Division 71)
Structural profile, EU-25, 2002**

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Renting of machinery and equipment without operator and of personal and household goods	60 441	2.3	570	0.8
Renting of automobiles; renting of other transport equipment	31 992	1.2	165	0.2
Renting of other machinery and equipment	22 154	0.9	247	0.4
Renting of personal and household goods n.e.c.	6 295	0.2	158	0.2

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.8

**Renting of machinery and equipment without operator
and of personal and household goods (NACE Division 71)
Structural profile: ranking of the top 3 Member States, 2002**

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (29.1)	Austria (148.9)	United Kingdom (28.6)	Ireland (189.6)
2	Germany (21.1)	Portugal (135.9)	France (15.0)	United Kingdom (154.8)
3	France (17.1)	United Kingdom (130.0)	Germany (14.2)	Malta (140.8)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

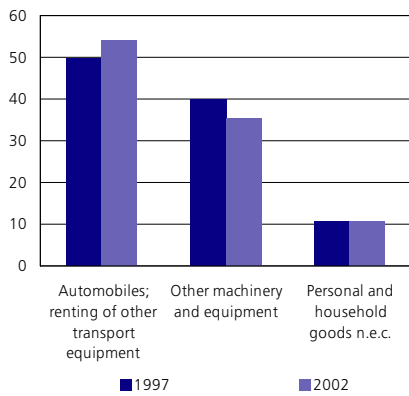
(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 22.5
Renting of machinery and equipment without operator and of personal and household goods (NACE Division 71)
Share of value added at factor cost, EU average (1)



(1) EU-25 excluding Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary, Malta and Slovakia.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.9
Renting of machinery and equipment without operator and of personal and household goods (NACE Division 71)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	29.8	36.4
Small enterprises	19.0	23.5
Medium-sized enterprises	22.6	15.7
Large enterprises	28.6	24.4

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

subsector (NACE Group 71.4) accounted for the remaining 10.4 % of value added. The size structure of the EU-25's renting and leasing sector was similar to that for business services as a whole in 2001, with none of the four size classes shown in Table 22.9 dominating in value added terms. Enterprises in both the micro and large enterprise size classes (with less than 10 and more than 250 persons employed respectively) accounted for close to 30 % of total value added, while small and medium-sized enterprises (with between 10 and 49, and between 50 and 249 persons employed respectively) generated around 20 % of the sector's value added.

Value added within the renting and leasing sector in the 16 Member States with data available ⁽¹⁰⁾ (that together accounted for 64.9 % of the EU-25's value added in 2002) grew at an annual average rate of 10.4 % (at current prices) in the period 1997 to 2002. This rate of growth was comparable with a similar average in other business activities (NACE Division 74).

⁽¹⁰⁾ Belgium, the Czech Republic, Denmark, Germany, Greece, Spain, Cyprus, Hungary and Malta, not available.

EMPLOYMENT CHARACTERISTICS

In EU-25 renting and leasing activities, 81.7 % of total employment was made up of paid employees in 2002, almost identical to the non-financial services average of 81.6 %, according to structural business statistics. This proportion was somewhat lower in the renting of personal and household goods subsector where it was 76.5 %, but higher in the remaining subsectors.

According to Labour Force Survey data for 2004 (see overleaf), 66.9 % of the persons employed in EU-25 renting and leasing activities were men. This share was 11.3 percentage points higher than the average for services as a whole (NACE Sections G to K). In every Member State with data available, the proportion of men in this sector was above the services average, although in Belgium the difference was very small. In Finland, the Czech Republic and Denmark the difference between the male proportion of the workforce in renting and leasing activities and the services average was greatest, and in these three Member States as well as Sweden more than three quarters of the renting and leasing workforce were men.

Some 83.8 % of the persons employed in EU-25 renting and leasing activities in 2004 worked full-time, which was a slightly higher proportion than for the services sector as a whole. Full-time employment rates in renting and leasing activities were 10 % or more higher than the national services average in Belgium, France, Ireland, the Netherlands and the United Kingdom, while in Austria this rate was 27.1 % lower, with just 54.3 % of those persons employed in renting and leasing activities working on a full-time basis, the lowest rate among the Member States for which data are available.

Table 22.10

**Renting of machinery and equipment without operator and of personal and household goods (NACE Division 71)
Labour force characteristics, 2004**

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	66.9	120.3	83.8	104.4	:	68.8	:
BE	59.5	101.0	98.2	125.0	:	81.2	22.7
CZ	76.1	142.2	97.6	103.6	:	63.9	22.5
DK	84.4	142.0	69.7	93.8	:	88.7	:
DE	63.8	122.7	72.3	98.3	15.0	62.5	27.1
EE	:	:	:	:	:	:	:
EL	66.8	110.1	95.1	99.0	:	71.2	:
ES	63.8	113.6	90.5	100.5	15.3	72.2	12.6
FR	71.4	126.7	95.9	113.1	12.4	70.5	17.1
IE	66.6	123.0	89.1	112.9	:	63.8	:
IT	71.9	121.1	90.3	107.1	:	78.0	19.1
CY	66.7	126.0	94.7	103.4	:	85.7	:
LV	:	:	:	:	:	:	:
LT	:	:	:	:	:	:	:
LU	:	:	:	:	:	:	:
HU	:	:	87.8	92.8	:	83.9	:
MT	:	:	:	:	:	:	:
NL	71.3	123.3	63.3	115.2	17.6	69.2	20.3
AT	55.8	110.9	54.3	72.9	:	64.7	:
PL	:	:	:	:	:	:	:
PT	:	:	:	:	:	:	:
SI	:	:	:	:	:	:	:
SK	:	:	:	:	:	:	:
FI	78.5	146.2	78.7	94.7	:	66.1	:
SE	78.8	133.0	81.6	107.1	:	60.7	28.2
UK	63.0	113.0	79.9	112.6	13.4	65.5	21.1

(1) Germany, 2003.

(2) Italy, 2003; the Netherlands, 2002; Belgium, 2001.

Source: Eurostat, Labour market, Total employment - LFS series

PRODUCTIVITY AND PROFITABILITY

The EU-25 reported an extremely high level of apparent labour productivity for renting and leasing activities, not only the highest of the business services sector at the NACE division level, but also the highest across all the NACE divisions that compose non-financial services. Indeed, apparent labour productivity was EUR 106 100 per person employed in 2002, more than two and a half times the level in the two other NACE divisions that compose the business services sector. The wage adjusted labour productivity ratio was 370.0 % for the EU-25's renting and leasing sector in 2002, the highest of any NACE division in non-financial services and the second highest figure for any NACE division within the non-financial business economy (NACE Sections C to I and K), behind the ratio for the extraction of crude oil and petroleum and natural gas (NACE Division 11). These relatively high values can, in part, be

explained by the specific nature of this activity, where the main costs of enterprises are likely to be financial ones covering borrowing and depreciation charges, neither of which impact on gross value added (nor on the gross operating surplus). The gross operating rate in the EU-25's renting and leasing sector in 2002 was 40.4 %, more than double the business services average and 3.6 times higher than the non-financial services average. Again this was the highest of any NACE division in non-financial services and the second highest figure in the non-financial business economy, reflecting the very high gross operating surplus in this sector (which is calculated as value added minus personnel costs). High gross operating rates were observed across the EU as the vast majority of Member States recorded their highest gross operating rate among the business services sectors for renting and leasing activities.

Average personnel costs for renting and leasing activities were EUR 28 700 per employee in 2002 in the EU-25, EUR 2 800 above the non-financial services average. In the EU-25's renting of other machinery and equipment subsector average personnel costs were EUR 20 800 per employee, notably lower than in the other two renting and leasing subsectors, where average personnel costs were over EUR 31 000 per employee.

22.2: RESEARCH AND DEVELOPMENT

Research and development (R & D) activities are classified within NACE according to the field of investigation of the research. A distinction is made between research and experimental development within natural sciences and engineering (NACE Group 73.1) and research and experimental development within social sciences and humanities (NACE Group 73.2). Note that market research activities are not covered and that these are included as part of Subchapter 22.3. Furthermore, it should be noted that the statistics presented for the research and development sector in this subchapter concern exclusively those enterprises whose main activity consists of carrying out R & D activities, and thus excludes R & D departments of universities, public administrations and enterprises whose main activity is otherwise classified.

Table 22.11
Business expenditure on research and development (BERD), 2003 (EUR million)

	Total BERD	Research and development activities (NACE Division 73)	Share of research and development activities in total (%)
BE (1)	3 654	13	0.4
CZ	618	102	16.6
DK	3 449	27	0.8
DE	37 910	1 000	2.6
EE	23	2	6.8
EL	:	:	:
ES	4 443	847	19.1
FR	:	:	:
IE	1 076	12	1.1
IT	:	:	:
CY	9	-	0.0
LV	13	2	14.6
LT	23	2	6.9
LU	379	:	:
HU	255	2	0.6
MT (1)	3	0	0.0
NL	4 804	180	3.7
AT (1)	3 131	268	8.6
PL	:	:	:
PT	338	15	4.6
SI	222	19	8.5
SK	93	47	50.4
FI	3 528	151	4.3
SE	7 886	641	8.1
UK	19 779	672	3.4

(1) 2002.

Source: Eurostat, Science and technology, Research and development, R&D expenditure (Business enterprise R&D expenditure (BERD) by economic activity)

Table 22.12

Research and development (NACE Division 73)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (30.7)	Luxembourg (292.1)	United Kingdom (28.0)	Slovakia (275.6)
2	Germany (24.9)	Slovakia (191.5)	Germany (23.4)	Slovenia (268.5)
3	France (11.5)	Netherlands (177.8)	Netherlands (9.6)	Luxembourg (248.1)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

In 2000 the European Commission proposed to create a European Research Area and this was endorsed at the European Council in Lisbon the same year, which set the EU the objective of becoming the 'most competitive and dynamic knowledge-based economy in the world by 2010'. Increased levels of research and development expenditure are seen as one of the means to achieve this, and in 2002 it was agreed that investment in R & D should reach 3 % of GDP by 2010.

The European Commission's research funding is centred around multi-annual framework programmes. The current one, the sixth programme, covers the period from 2002 to 2006 and has a budget of EUR 17.5 billion, while in September 2005 the European Commission approved its proposals for the seventh framework programme which will contribute towards attempts to meet the 3 % GDP goal.

Total R & D expenditure by the business enterprise institutional sector (as opposed to government, higher education and private non-profit institutional sectors) is shown in Table 22.11, which also shows the proportion of this total spent by enterprises in the research and development sector.

Table 22.13

Research and development (NACE Division 73)

Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	7.6	11.7
Small enterprises	11.1	13.0
Medium-sized enterprises	28.3	24.6
Large enterprises	53.1	50.7

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

STRUCTURAL PROFILE

Value added in the EU-25's research and development activities (NACE Division 73) was estimated at EUR 15.6 billion in 2002. Research and development activities were therefore the smallest of the three NACE divisions that compose the business services (NACE Divisions 71, 73 and 74) sector, with a 2.5 % share of sectoral value added in the EU-25 and a 0.6 % share of non-financial services (NACE Sections G to I and K) value added. The level of employment for research and development activities was 377 600 persons employed in the EU-25 in 2002, 2.3 % of the business services workforce.

In value added terms, the United Kingdom had the largest research and development sector in the EU-25 in 2002, having generated EUR 4.8 billion of value added, equivalent to 30.7 % of the EU-25 total. In a number of Member States ⁽¹¹⁾ this sector contributed more than 1 % of non-financial services value added, notably in Luxembourg where this share reached 1.8 % and in Slovakia and the Netherlands where it reached 1.1 %. In Estonia, Malta and Portugal research and development activities contributed less than 0.1 % of non-financial services value added and employment.

The EU-25's research and development sector was dominated by large enterprises (with 250 or more persons employed), as these generated 53.1 % of the sector's value added and employed 50.7 % of the workforce in 2001 - see Table 22.13. Medium-sized enterprises (with 50 to 249 persons employed) were also relatively important, such that medium-sized and large enterprises together contributed 81.3 % of the sector's value added, far above the business services average of 49.3 %.

⁽¹¹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.14

**Research and development (NACE Division 73)
Labour force characteristics, 2004**

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%) (1)	Index (services=100) (1)	Proportion of those employed (%)	Index (services=100)	< 25 years (2)	25-49 years	50+ years (3)
EU-25	57.2	102.9	87.0	108.4	:	67.3	27.2
BE	58.4	99.2	89.3	113.7	:	68.8	:
CZ	50.7	94.8	87.0	92.4	7.2	56.4	43.6
DK	55.7	93.7	82.1	110.6	:	68.9	31.1
DE	61.9	119.0	80.1	108.9	7.1	71.7	21.3
EE	:	:	:	:	:	:	:
EL	40.5	66.7	95.3	99.1	:	73.9	26.1
ES	53.7	95.7	94.6	105.1	12.0	83.4	10.2
FR	58.6	104.0	91.2	107.5	8.5	61.0	30.5
IE (4)	:	:	94.3	119.1	:	:	:
IT	63.0	106.0	90.0	106.7	:	74.2	24.2
CY	:	:	100.0	109.2	:	:	:
LV	:	:	79.6	87.8	:	:	77.7
LT	:	:	100.0	106.7	:	:	:
LU	79.9	134.7	90.5	106.9	:	78.3	:
HU	51.1	95.1	90.4	95.5	:	48.4	46.0
MT	:	:	:	:	:	:	:
NL	63.4	109.6	74.8	136.1	:	72.8	23.5
AT	41.5	84.2	79.3	106.6	:	75.2	:
PL	50.0	93.4	88.0	98.0	:	59.9	40.1
PT (5)	:	:	100.0	107.8	:	:	:
SI	49.2	95.0	85.2	93.0	:	72.5	29.1
SK	42.8	84.0	92.9	96.2	:	55.9	34.3
FI	42.9	79.9	93.2	112.1	:	67.3	22.8
SE	58.2	98.2	90.4	118.6	:	67.5	29.5
UK	57.9	103.9	85.4	120.3	:	68.3	25.6

(1) Austria, 2003. (2) The Czech Republic and Spain, 2001. (3) Slovenia, 2001. (4) 2001. (5) 2002.
Source: Eurostat, Labour market, Total employment - LFS series

EMPLOYMENT CHARACTERISTICS

According to Labour Force Survey data for 2004, some 57.2 % of the persons employed in EU-25 research and development activities were men, some 1.6 percentage points above the services average (NACE Sections G to K). Among the Member States - see Table 22.14 for data availability - male employment was particularly high in Luxembourg (79.9 %), some 20.6 percentage points above the national average for the services sector, while in Germany the difference was 9.9 percentage points. In contrast, the male proportion of the research and development activities workforce was 20.2 percentage points lower than the services average in Greece.

In 2004 the workforce in the EU-25's research and development sector was characterised by a high proportion of full-time employment. Some 87.0 % of the persons employed worked full-time, compared with a services average of 80.3 %. This above average incidence of full-time employment was observed in the majority of Member States for which data are available, although in Latvia the rate of full-time employment was more than 10 percentage points below the services average.

The research and development sector has a notably different age structure from many other activities, with a particularly high proportion of persons aged 50 or more in the workforce. In 2004 more than a quarter (27.2 %) of the sector's workforce were aged 50 or over, compared with a services average of one fifth (21.0 %). Of all the NACE divisions in the business economy, whether industrial, construction or services, this was the second highest proportion of older persons in the workforce after real estate activities (NACE Division 70).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity in the EU-25's research and development sector was EUR 41 200 per person employed in 2002 and average personnel costs were equal to EUR 45 800 per employee. These were both above the business services and non-financial services averages. The relatively high average personnel costs in this sector were observed in nearly all Member States, as only Slovenia, Malta and Latvia recorded average personnel costs that were below their non-financial services average.

The wage adjusted labour productivity ratio for the research and development sector was just 89.9 % in 2002, indicating that value added per person employed was just over 10 % lower than average personnel costs per employee. In around one third of the Member States this ratio was below 100 % in 2002, most notably in the Nordic Member States, Poland and the United Kingdom ⁽¹²⁾, while it was negative in Estonia as value added in the Estonian research and development sector was negative.

As indicated by the very low wage adjusted labour productivity ratio, personnel costs exceeded value added, such that the gross operating surplus for the EU-25's research and development sector was negative, resulting therefore in a negative gross operating rate, albeit only -0.3 % in 2002. Several Member States reported negative gross operating rates for this sector, with the largest recorded in Estonia (-75.9 %), Denmark (-26.5 %), Finland (-24.1 %) and Sweden (-18.3 %). Uniquely, Malta recorded its highest gross operating rate among the business services sectors for research and development activities.

⁽¹²⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

22.3: LEGAL, ACCOUNTING AND MANAGEMENT SERVICES

This subchapter extends across a variety of professional activities that include legal services, accounting, book-keeping, auditing, tax consultancy, market research, public opinion polling, business and management consultancy services, as well as management activities relating to holding companies; these are all classified within NACE Group 74.1.

Enterprises in this sector are generally small, and a common legal form is that of partnerships. Another characteristic of these activities is that individuals are more likely to use these services than most of the other activities within the business services sector, for instance when they need an accountant, a lawyer, a notary or a tax adviser.

STRUCTURAL PROFILE

The EU-25's legal, accounting and management services sector (NACE Group 74.1) generated EUR 214.2 billion of value added in 2002, some 33.9 % of the business services total (NACE Divisions 71, 73 and 74), or 8.2 % of non-financial services (NACE Sections G to I and K) value added. There were 4.2 million persons employed in this sector in the EU-25 in 2002, equivalent to 24.9 % of the business services workforce, and 6.1 % of the non-financial services workforce.

The United Kingdom made the largest contribution to value added among the Member States for legal, accounting and management services, with EUR 59.0 billion of added value, equivalent to 27.5 % of the EU-25 total, while Germany was the second highest contributor with a 21.6 % share.

In terms of specialisation, the United Kingdom was the most specialised Member State ⁽¹³⁾ in this activity in value added terms in 2002, as legal, accounting and management services contributed 10.1 % of non-financial services value added, slightly more than in Luxembourg (9.9 %) and Belgium (9.7 %, 2001). Germany (9.2 %), the Netherlands (9.0 %) and Ireland (8.7 %) were the only other Member States where the contribution of this sector to non-financial services value added was above the EU-25 average.

⁽¹³⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.15

**Legal, accountancy and management services (NACE Group 74.1)
Structural profile: ranking of the top 3 Member States, 2002**

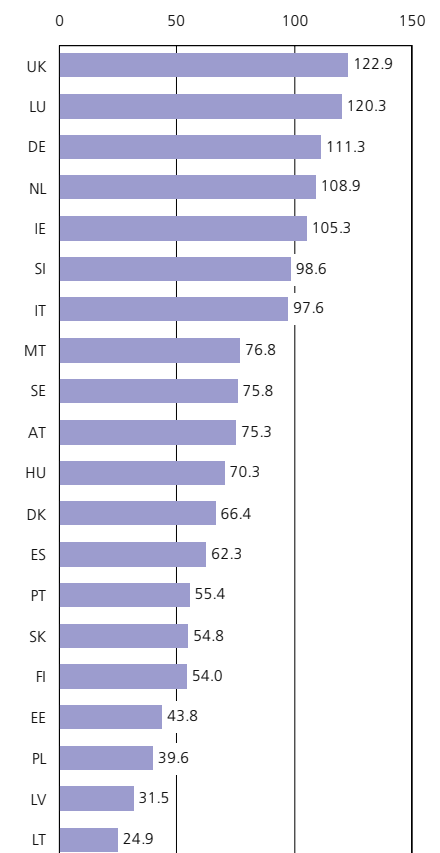
Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (27.5)	United Kingdom (122.9)	United Kingdom (20.5)	Netherlands (136.5)
2	Germany (21.6)	Luxembourg (120.3)	Germany (19.3)	Luxembourg (128.6)
3	France (13.4)	Germany (111.3)	Italy (12.1)	Sweden (125.2)

(1) Belgium and the Czech Republic, 2001; Greece, not available.
 (2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 (3) France, 2001; Greece, not available.
 (4) France, 2001; Greece and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Little information is available at a more detailed level for this large sector. However structural business statistics do indicate that the market research and public opinion polling subsector (NACE Class 74.13) generated only EUR 7.0 billion of the sector's value added in the EU-25, equivalent to 3.2 % of the total for legal, accounting and management services. The market research and public opinion polling subsector employed 180 500 persons in the EU-25 in 2002, equivalent to 4.3 % of the total number of persons employed in the EU-25's legal, accounting and management services sector. By far the largest contribution to value added in the market research and public opinion polling subsector came from the United Kingdom, with a 26.4 % share of the EU-25 value added. France (13.3 %), Italy (13.0 %) and Germany (11.2 %) were the only other Member States to contribute more than 10 %.

Figure 22.6

**Legal, accountancy and management services (NACE Group 74.1)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)**



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.16

Legal, accountancy and management services (NACE Group 74.1)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	39.5	48.0
Small enterprises	22.9	24.4
Medium-sized enterprises	14.8	12.3
Large enterprises	22.8	15.3

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Employment in legal services

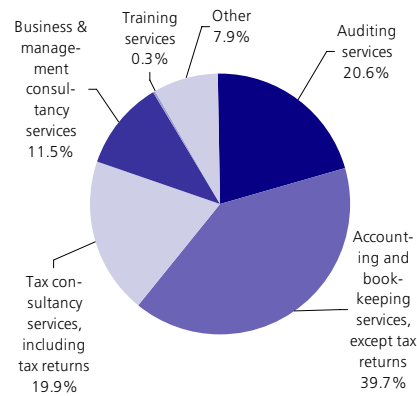
Legal services cover the activities of advocates, barristers, solicitors, notaries, registered lawyers and legal consultants. According to figures from CCBE ⁽¹⁴⁾, there were about 736 800 lawyer members of the Bar in the EU in 2005.

A breakdown of value added by enterprise size class (see Table 22.16) shows that 62.4 % of the value added generated in the EU-25's legal, accounting and management services sector in 2001 was accounted for by micro (less than 10 persons employed) and small enterprises (from 10 to 49 persons employed), which was a higher share than the average for business services (50.7 %). The importance of these two enterprise size classes was even more marked in terms of employment, as they employed 72.4 % of the total number of persons employed, a proportion that was 25.3 percentage points higher than the business services average. The high involvement of micro and small enterprises in this sector was balanced naturally by a lower contribution of medium-sized and large enterprises, particularly large ones (with 250 or more persons employed) that generated just 22.8 % of sectoral value added, some 7.9 percentage points less than the average for business services.

⁽¹⁴⁾ CCBE (the Council of Bars and Law Societies of Europe), more information at: <http://www.ccbe.org>; Ireland, Poland and the United Kingdom, approximate figures; Malta, not available.

Figure 22.7

Breakdown of turnover of accounting, book-keeping and auditing activities; tax consultancy (NACE Class 74.12) by product, for selected Member States, 2001 (1)



(1) Average based on data for Denmark, Spain, France, Ireland, Portugal, Finland, Sweden and the United Kingdom.

Source: Eurostat, Structural Business Statistics (Services), Business services

Value added within the legal, accounting and management services sector in the 14 Member States with data available ⁽¹⁵⁾ (that together accounted for 64.8 % of the EU-25's value added in 2002) grew on average by 11.1 % per year (at current prices) between 1997 and 2002. This was one of the fastest growth rates among the business services sectors, with only labour recruitment and provision of personnel, and investigation and security activities (NACE Groups 74.5 and 74.6) recording more rapid expansions.

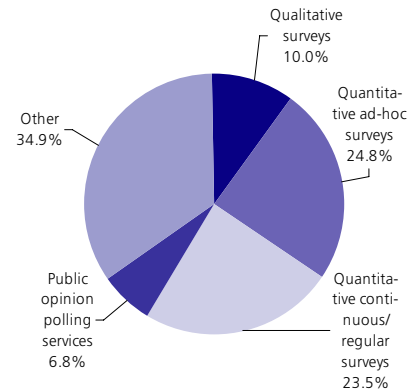
Accounting and market research - a product analysis

A restricted set of Member States provide turnover data for accounting and market research activities that can be broken down by product - see Figures 22.7 and 22.8 for coverage details. For enterprises in accounting, book-keeping, auditing and consultancy activities, the main market segment providing approximately two fifths of turnover was accounting and book-keeping services, while auditing services and tax consultancy services each generated an additional one fifth of turnover for these enterprises. Quantitative surveys (whether regular or not) generated nearly half of the turnover of market research and opinion polling enterprises; the very high proportion of turnover from other services indicates that enterprises in this sector may well have large secondary activities - although it

⁽¹⁵⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary and Malta, not available.

Figure 22.8

Breakdown of turnover of market research and public opinion polling activities (NACE Class 74.13) by product, for selected Member States, 2001 (1)



(1) Average based on data for Denmark, Spain, Ireland, Finland, Sweden and the United Kingdom.

Source: Eurostat, Structural Business Statistics (Services), Business services

should be noted that this was mainly due to the data for the United Kingdom (other services contributed 46.3 % of turnover) which dominated this limited aggregate.

PRODUCTIVITY AND PROFITABILITY

The EU-25 legal, accounting and management services sector registered apparent labour productivity of EUR 51 500 per person employed in 2002, some EUR 13 800 above the average recorded for business services and the second highest value among the business services activities covered in Subchapters 22.1 to 22.9, after renting and leasing (NACE Division 71). Average personnel costs were EUR 40 600 per employee in the EU-25, also higher than the business services average, and again the second highest among the business services, after research and development activities (NACE Division 73).

These figures for apparent labour productivity and average personnel costs led to a wage adjusted labour productivity ratio of 126.8 % in the EU-25, fairly typical for other business activities (NACE Division 74), but below the business services average and some 19.1 percentage points below the non-financial services average. Among Member States ⁽¹⁶⁾, only five recorded a higher wage adjusted labour productivity in the legal, accounting and management services sector than their non-financial services average, namely Slovakia, it

⁽¹⁶⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Latvia, Slovenia, Italy and Austria. In a number of Member States this ratio was below 100 %, indicating that average personnel costs per employee were higher than value added per person employed: this was most notably the case in Poland (51.2 %) and Sweden (70.8 %).

The gross operating rate in the EU-25's legal, accounting and management services sector was 22.7 %, above the business services average of 19.4 % and just over twice the non-financial services average. Only three Member States recorded a lower gross operating rate for legal, accounting and management services than their non-financial services average in 2002, most notably Sweden which recorded a negative gross operating rate (-1.0 %). Ireland and Slovenia recorded their highest gross operating rates among the business services sectors in the legal, accounting and management services sector.

22.4: ARCHITECTURAL AND ENGINEERING ACTIVITIES; TECHNICAL TESTING AND ANALYSIS STRUCTURAL PROFILE

Architectural and engineering activities covered by NACE Group 74.2 include architectural consulting activities (such as building design and drafting, supervision of construction, town and city planning, and landscape architecture) and various engineering and technical activities related to construction, as well as geological and prospecting activities, weather forecasting activities and geodetic surveying. Technical testing and analysis activities (NACE Group 74.3) include environmental measuring, testing of food hygiene, buildings and equipment, as well as the periodic testing of vehicles for roadworthiness.

Value added in the architectural, engineering and technical activities sector (NACE Groups 74.2 and 74.3) was EUR 104.0 billion in 2002 in the EU-25, representing 16.5 % of the value added generated in business services (NACE Divisions 71, 73 and 74). There were 2.3 million persons employed in this sector in the EU-25 in 2002, equivalent to 13.8 % of employment in the EU-25's business services sector and 3.4 % of the non-financial services workforce (NACE Sections G to I and K).

Table 22.17

Legal, accountancy and management services (NACE Group 74.1) Labour productivity, personnel costs and gross operating rate: ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (69.3)	Belgium (63.7)	Latvia (292.8)	Malta (72.4)
2	United Kingdom (69.3)	Sweden (53.9)	Malta (225.5)	Cyprus (40.2)
3	Belgium (64.8)	France (52.5)	Slovakia (219.4)	Italy (38.4)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.18

Architectural and engineering activities; technical testing and analysis (NACE Groups 74.2 and 74.3) Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (25.5)	Slovenia (164.9)	Germany (21.7)	Sweden (156.1)
2	United Kingdom (21.5)	Germany (131.4)	United Kingdom (16.3)	Slovenia (153.1)
3	France (13.0)	Slovakia (130.5)	Italy (13.8)	Germany (135.7)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

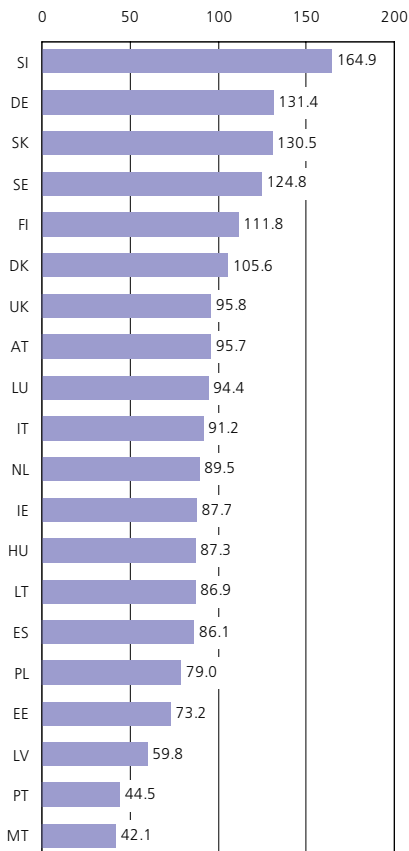
Of the nine business services sectors covered in Subchapters 22.1 to 22.9 this sector was one of only two in which the United Kingdom did not contribute the greatest share of EU-25 value added; the other was industrial cleaning services (NACE Group 74.7). In 2002 the Member State with the largest share of value added in the EU-25's architectural, engineering and technical activities sector was Germany (25.5 %), followed by the United Kingdom (21.5 %). Germany was also the second most specialised Member State in these activities, as

this sector contributed 5.3 % of German non-financial services value added, a proportion exceeded only in Slovenia (6.6 %). The only other Member States⁽¹⁷⁾ where the architectural, engineering and technical activities sector contributed more than 5 % of non-financial services value added were Slovakia and Sweden. In every Member State except for Italy, Sweden and Poland this sector contributed more to non-financial services in value added terms than in employment terms.

⁽¹⁷⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Figure 22.9

Architectural and engineering activities; technical testing and analysis (NACE Groups 74.2 and 74.3)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The size class structure of the EU-25's architectural, engineering and technical activities sector was quite typical of business services with no single size class dominating in 2001. However, like the legal, accounting and management services sector, the importance of micro and small enterprises (with less than 50 persons employed) was somewhat higher than the business services average, as enterprises in these two size classes together generated nearly three fifths (59.7 %) of the sector's value added and employed over two thirds (68.4 %) of the workforce - see Table 22.19.

Table 22.19

Architectural and engineering activities; technical testing and analysis (NACE Groups 74.2 and 74.3)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	36.9	46.7
Small enterprises	22.8	21.7
Medium-sized enterprises	17.6	14.8
Large enterprises	22.7	16.8

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Value added (at current prices) within the architectural, engineering and technical activities sector in the 15 Member States with data available ⁽¹⁸⁾ (that accounted together for 66.5 % of the EU-25's value added in 2002) grew on average by 6.5 % per annum between 1997 and 2002. This was the slowest growth rate of similar averages within other business activities (NACE Division 74).

A product analysis

A special survey of architectural and engineering activities and related technical consultancy (NACE Group 74.2) was carried out for the 2001 reference year. A breakdown of turnover into various products is available for a number of Member States - see Figure 22.10. According to the classification presented in this figure, engineering design services were the largest product market for enterprises in the architectural, engineering and technical activities sector with nearly half of the turnover, while architectural services accounted for the next largest share, with just over one eighth of the turnover.

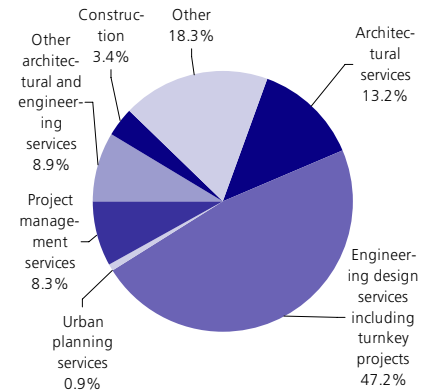
PRODUCTIVITY AND PROFITABILITY

In 2002, apparent labour productivity was higher in the EU-25's architectural, engineering and technical activities sector (EUR 45 100 of value added per person employed) than in business services as a whole (EUR 37 700). Average personnel costs were relatively high in the EU-25 at EUR 40 200 per employee compared with EUR 28 300 for the whole of business services.

⁽¹⁸⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Cyprus, Lithuania, Hungary and Malta, not available.

Figure 22.10

Breakdown of turnover of architectural and engineering activities and related technical consultancy (NACE Group 74.2) by product, for selected Member States, 2001 (1)



(1) Average based on data for Denmark, Spain, France, Ireland, Portugal, Finland, Sweden and the United Kingdom.

Source: Eurostat, Structural Business Statistics (Services), Business services

This combination of above average apparent labour productivity and high average personnel costs led to a wage adjusted labour productivity ratio for the EU-25's architectural, engineering and technical activities sector of 112.3 %, which was one of the lowest among the business services activities. The wage adjusted labour productivity ratio was 21.2 percentage points lower than the business services average and 33.6 percentage points lower than the non-financial services average. Only one Member State ⁽¹⁹⁾, Slovakia, recorded a wage adjusted labour productivity ratio for architectural, engineering and technical activities that was higher than its non-financial services average. In all other Member States this ratio was relatively low for architectural, engineering and technical activities, although in 2002 only Poland, Italy and Sweden recorded a ratio below 100 %, indicating that the value added per person employed in these Member States was less than the average personnel costs per employee.

Despite the relatively low wage adjusted labour productivity in this sector, the gross operating rate was high, as it reached 18.0 % in 2002 in the EU-25, some 6.8 percentage points above the non-financial services average. Despite being slightly below the business services average, the gross operating rate for architectural, engineering and technical activities was the third highest among the nine business services sectors presented in this chapter, behind renting and leasing (NACE Division 71) and the legal, accounting and management services sector (NACE

⁽¹⁹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Group 74.1). All Member States ⁽²⁰⁾ recorded a gross operating rate in this sector close to or above their non-financial services average, with only Denmark, France and Poland registering lower rates. Italy and Latvia recorded their highest gross operating rates among the business services sectors for architectural, engineering and technical activities.

⁽²⁰⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Box 22.1: Architects

Table 22.20 shows the ten largest architectural groups in the EU, based on information compiled by the Swedish Federation of Consulting Engineers and Architects (STD). As can be seen even the largest groups are relatively small with only the two largest employing more than 500 persons.

Table 22.20
Top ten architectural groups, EU-25, 2003

		Number of employees (units)	Turnover (EUR million)
Foster & Partners Ltd	UK	600	47.0
RMJM	UK	570	:
AEDAS Architects Ltd	UK	480	32.0
Broadway Malyan Ltd	UK	400	27.0
gmp-Architekten von Gerkan, Marg und Partner	DE	330	39.0
White Architects AB	SE	318	25.2
SWECO FFNS	SE	311	33.1
RKW Architekten GmbH	DE	280	:
Chapman Taylor	UK	265	:
(Capita) Percy Thomas Architects	UK	250	14.5

Source: Swedish Federation of Consulting Engineers and Architects (STD), Sector Review, November 2004

22.5: ADVERTISING AND DIRECT MARKETING

Advertising and direct marketing enterprises engage in services aimed at promoting ideas, goods and services, be it to the general public, specific target groups or other enterprises. These activities are covered by NACE Group 74.4 which includes the creation and placing of outdoor advertising, the sale of advertisement time and space and the distribution or delivery of advertising material, as well as direct marketing, sponsorship and sales promotion services. Note that when buying and reselling sales time or space advertising enterprises have a relatively high turnover, and purchases of goods and services are high relative to personnel costs reflecting the distributive nature of this part of their activity.

Advertising and direct marketing are among the activities for which expenditures tend to rapidly decrease when the economic climate is not favourable. Nonetheless, when an upturn is foreseen, expenditure on these services tends to increase faster than the general economy given the advantages they can bring. This sector was affected by the slowdown observed in the EU-25 (and global) economy in 2001 and 2002, and in particular by the collapse in 2001 of the dot-com boom.

Table 22.21
Advertising (NACE Group 74.4)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (26.5)	Slovakia (164.5)	Germany (25.5)	Sweden (165.4)
2	Germany (20.9)	Sweden (133.4)	France (13.1)	Germany (159.5)
3	France (16.3)	United Kingdom (118.2)	United Kingdom (10.7)	Denmark (139.0)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

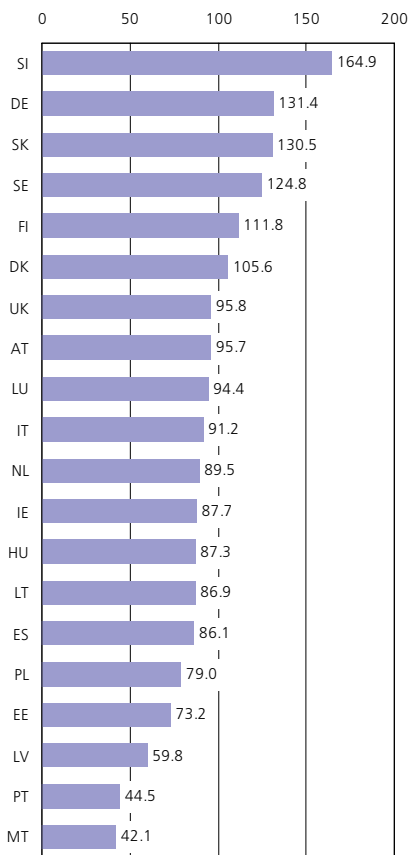
The EU-25's advertising activities (NACE Group 74.4) generated EUR 35.5 billion of value added (5.6 % of the business services total, NACE Divisions 71, 73 and 74) in 2002 and employed 896 100 persons (5.4 % of employment in business services). As such, advertising activities represented 1.4 % of non-financial services (NACE Sections G to I and K) value added and 1.3 % of employment. In 2002, EUR 9.4 billion of value added was generated in the United Kingdom, the highest figure among the Member States, and equivalent to 26.5 % of the EU-25 total. Germany (20.9 %) and France (16.3 %) were

the next largest contributors to value added. Despite having by some margin the largest advertising activities sector in the EU-25, the contribution of this sector to non-financial services value added in the United Kingdom (1.6 %) was not much above the EU-25 average of 1.4 %. By this measure, Slovakia and the Czech Republic (2001) were by far the most specialised Member States in this activity ⁽²¹⁾, as 2.3 % and 2.1 % respectively of non-financial services value added was generated in advertising activities, some way

⁽²¹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Figure 22.11

Advertising (NACE Group 74.4)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

ahead of Sweden (which had the next largest share). In contrast, Ireland, Luxembourg, Malta, Slovenia, Hungary and Italy were the least specialised Member States in this activity, and in all of these Member States advertising activities contributed less than 1% to non-financial services value added.

The EU-25's advertising sector in 2001 was composed essentially of SMEs, as enterprises with less than 250 persons employed generated 84.8% of the sector's value added, compared with a business services average of 69.2%. Small enterprises (with between 10 and 49 persons employed) in particular contributed most to the sector, generating close to one third (32.7%) of sectoral value added - see Table 22.22. In employment terms the structure of the advertising activities sector was quite different. Most notable was the

Table 22.22

Advertising (NACE Group 74.4)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	28.9	35.3
Small enterprises	32.7	22.5
Medium-sized enterprises	23.3	15.7
Large enterprises	15.2	26.6

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

much greater importance of large enterprises (with 250 or more persons employed). Large enterprises employed over one quarter (26.6%) of the advertising sector's workforce, a share that was some 11.4 percentage points higher than their contribution to the sector's value added. In contrast, the contribution of micro enterprises (with less than 10 persons employed) was much greater in value added terms than in employment terms.

Value added (at current prices) within advertising activities in the 14 Member States with data available ⁽²²⁾, that together accounted for 64.8% of the EU-25's value added in 2002, grew by 19.3% per annum on average between 1997 and 2000. Growth was much slower in 2001, around 2.4%, while in 2002 the advertising sector in these Member States contracted by 7.1%.

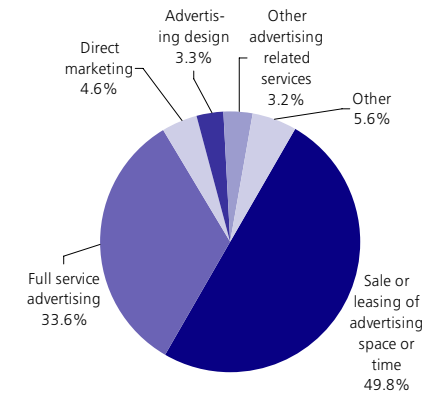
Advertising - a product analysis

A few Member States provided structural business statistics turnover data for the advertising sector broken down by product for 2001 - see Figure 22.12. This was dominated by the sale and leasing of advertising space/time which represented nearly half of all turnover - it should be noted that this product is similar to a retail or wholesale product, in that a large proportion of the turnover represents the reselling of space/time purchased from a media organisation rather than income for the provision of a service by the advertising enterprises themselves.

⁽²²⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary and Malta, not available.

Figure 22.12

Breakdown of turnover of advertising activities (NACE Group 74.4) by product, for selected Member States, 2001 (1)



(1) Average based on data for Spain, France, Ireland, Portugal, Finland, Sweden and the United Kingdom. Source: Eurostat, Structural Business Statistics (Services), Business services

PRODUCTIVITY AND PROFITABILITY

In 2002, apparent labour productivity in the EU-25's advertising activities was EUR 39 600 per person employed, just higher than for business services or non-financial services as a whole. Average personnel costs in advertising activities were EUR 28 400 per employee in the EU-25, approximately the same as the business services average and EUR 2 500 above the average for non-financial services. The resulting wage adjusted labour productivity ratio for the EU-25's advertising activities in 2002 was 139.6%, the second highest level among the business service sectors presented in this chapter after renting and leasing. Nevertheless, this was still 6.3 percentage points below the non-financial services average. Only Poland recorded a wage adjusted labour productivity ratio significantly below 100% for advertising activities, as its ratio was just 65.7%.

In contrast to the high wage adjusted labour productivity ratio, the gross operating rate was relatively low for advertising activities, at just 11.9% for the EU-25 in 2002. While this was 0.7 percentage points above the non-financial services average, it was 7.6 percentage points below the business services average, and the third lowest rate among the business services sectors.

22.6: LABOUR RECRUITMENT AND TEMPORARY WORK SERVICES

Activities covered in this subchapter include personnel search, selection referral, head-hunting and job placement services, be they supplied to an individual looking for work or an enterprise trying to hire (NACE Group 74.5). The data presented also cover labour-contracting activities (for example, temporary work agencies); however, they do not comprise farm labouring or the performing arts.

Labour recruitment and temporary work services have grown mainly as a consequence of the outsourcing trend, using the expertise provided by enterprises in this sector (for example, knowledge of the employment market and selection procedures) instead of employing personnel directly.

STRUCTURAL PROFILE

Value added in the labour recruitment and provision of personnel sector (NACE Group 74.5) was EUR 68.5 billion in the EU-25 in 2002. This sector contributed 2.6 % of the wealth created in non-financial services (NACE Sections G to I and K) in 2002, and 10.8 % of the total for business services (NACE Divisions 71, 73 and 74). There were 2.6 million persons employed in labour recruitment and provision of personnel in the EU-25, 15.7 % of the business services workforce and 3.8 % share of the non-financial services workforce. The relatively high proportion of the non-financial services workforce compared with the sector's share of value added reflects the nature of many of the enterprises in this sector, namely to employ people to work for clients in other sectors.

The United Kingdom had the largest value added of any Member State in most of the business services sectors, but it was in labour recruitment and provision of personnel where its share of EU-25 value added was at its highest in 2002, reaching 36.3 %. France also recorded its largest share of EU-25 value added (among the business services sectors) in this sector, with a 27.0 % share, and as such these two Member States together dominated the labour recruitment and provision of personnel sector with a combined share of 63.1 %; no other Member State's contribution reached 10 % of the EU-25's value added in 2002. In terms of this sector's contribution to non-financial services value added, the Member States⁽²³⁾ most specialised in labour recruitment and provision of personnel were France (2001), the United Kingdom, Belgium (2001) and the Netherlands, all of which generated 3.7 % or more of their non-financial

⁽²³⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.23

**Labour recruitment and provision of personnel (NACE Group 74.5)
Structural profile: ranking of the top 3 Member States, 2002**

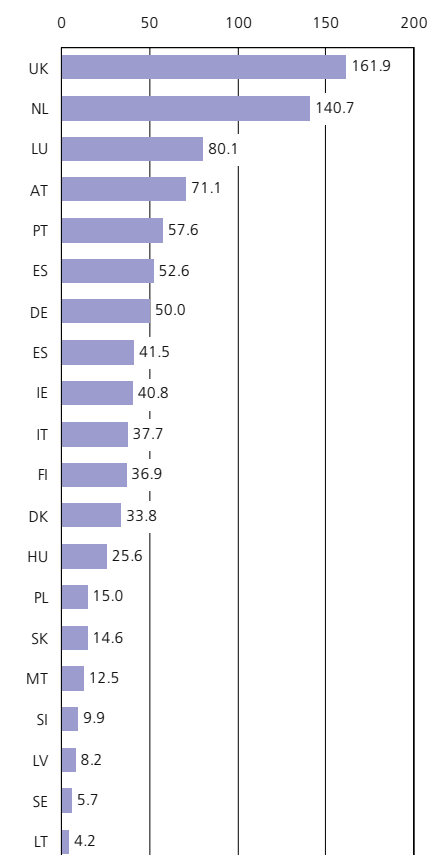
Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (36.3)	United Kingdom (161.9)	United Kingdom (28.5)	Luxembourg (270.3)
2	France (27.0)	Netherlands (140.7)	France (24.4)	Netherlands (245.0)
3	Germany (9.7)	Luxembourg (80.1)	Netherlands (12.4)	France (191.4)

(1) Belgium and the Czech Republic, 2001; Greece, not available.
 (2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 (3) France, 2001; Greece, not available.
 (4) France, 2001; Greece and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

services value added within labour recruitment and provision of personnel. In all other Member States, the labour recruitment and provision of personnel sector contributed a smaller proportion of non-financial services value added than the EU-25 average. In employment terms the concentration of this activity in the United Kingdom and France was still high, but to a lesser degree than for value added, as their combined share of the EU-25's workforce was 52.5 % in 2001.

Figure 22.13

**Labour recruitment and provision of personnel (NACE Group 74.5)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)**



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.
 Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.24

Labour recruitment and provision of personnel (NACE Group 74.5)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	6.2	3.8
Small enterprises	10.2	6.4
Medium-sized enterprises	19.6	17.7
Large enterprises	64.0	72.2

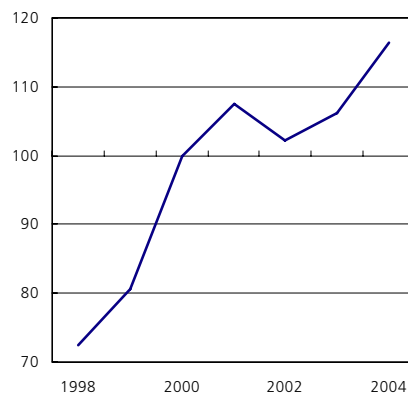
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

An analysis of value added by enterprise size class shows the importance of large enterprises (250 and more persons employed) in the EU-25's labour recruitment and provision of personnel sector - see Table 22.24. Nearly two thirds (64.0 %) of the value added generated in this sector was provided by large enterprises in 2001, more than twice the average for business services, and a higher share even than that recorded for research and development activities (NACE Division 73). While the contribution of medium-sized enterprises to this sector's value added was similar to the average for business services as a whole, the importance of small and micro enterprises (with less than 50 persons employed) was particularly low. This was true in value added terms where combined they generated 16.4 % of the sector's output, as well as in employment terms where they employed 10.1 % of the sector's workforce. As can be seen from these two shares, micro and small enterprises contributed a higher share of value added than employment for labour recruitment and provision of personnel, indicating that they had a higher apparent labour productivity than larger enterprises, an unusual situation but one also observed in some other business services, notably advertising activities and industrial cleaning services (NACE Groups 74.4 and 74.7).

Between 1998 and 2004, the EU-25's labour recruitment and provision of personnel sector showed a rapid development of turnover (at current prices) according to short-term business

Figure 22.14

Labour recruitment and provision of personnel (NACE Group 74.5)
Evolution of turnover, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

statistics - see Figure 22.14 - as annual average growth was 8.2 % per annum. Nonetheless, the general economic slowdown around 2001 and 2002 was evident as the turnover index recorded a decline of 5.0 % between 2001 and 2002. In all other years during the period studied a rise was registered in the turnover index for the EU-25, most recently of 3.9 % in 2003 and 9.7 % in 2004.

Expenditure on agency workers

Table 22.25 provides an analysis of the expenditure on agency workers by industrial and construction enterprises. The country coverage is limited to those countries with complete data sets for 2002. Unsurprisingly, as the largest activity analysed, enterprises in the manufacturing activity spent the greatest amount on these services in most of the Member States shown. Notably Denmark was the only Member State where mining and quarrying activities accounted for a substantial share of the total expenditure on agency workers. In several Member States construction activities accounted for a large proportion of expenditure, most notably in Lithuania. Only in Sweden and the United Kingdom were electricity, gas and water supply activities responsible for more than 10 % of the industrial and construction expenditure on agency workers.

Table 22.25

Industrial and construction expenditure on agency workers, breakdown by NACE section, 2002 (%)

	Average	DK	DE	EE	ES	FR	LT	HU	MT	NL	AT	PT	SK	FI	SE	UK
Mining and quarrying	2.2	33.3	0.5	0.0	0.3	0.6	0.0	0.0	0.0	2.3	1.2	0.2	1.3	0.6	0.6	5.7
Manufacturing	85.1	48.2	98.0	100.0	93.1	98.4	21.4	92.2	100.0	78.7	71.8	85.2	94.8	61.5	77.7	63.5
Electricity, gas and water supply	4.5	0.5	1.5	0.0	0.5	1.0	0.0	1.8	0.0	4.3	5.7	1.0	1.3	4.7	13.0	12.6
Construction	8.2	18.0	0.0	0.0	6.1	0.0	78.6	6.0	0.0	14.8	21.3	13.6	2.6	33.3	8.6	18.3

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

PRODUCTIVITY AND PROFITABILITY

Labour and productivity indicators were generally lower in the labour recruitment and provision of personnel sector than averages for the whole of non-financial services. Indeed, in 2002, the EU-25's apparent labour productivity was EUR 26 000 per person employed for labour recruitment and provision of personnel, EUR 11 800 less than the non-financial services average. Average personnel costs were EUR 22 300 per employee, which was EUR 3 600 below the non-financial services average. Nevertheless, these ratios are to some extent influenced by the high incidence of part-time and temporary work in the labour recruitment and provision of personnel sector, as both of these measures are based on a simple count of persons employed or employees. The wage adjusted labour productivity ratio is less affected by these characteristics of the workforce and this ratio stood at 116.7 % in 2002, compared with 145.9 % for non-financial services. In most of the Member States⁽²⁴⁾ this ratio exceeded 100 % indicating that value added covered personnel costs; nonetheless, this was not the case in Italy, Portugal, Sweden or Luxembourg.

The gross operating rate in the EU-25's labour recruitment and provision of personnel sector was 12.2 % in 2002, a full percentage point above the non-financial services average of 11.2 %. Three Member States⁽²⁵⁾ recorded negative gross operating rates in this sector, indicating that the gross operating surplus was negative, which in turn indicates that value added was less than personnel costs. In the case of Portugal and Italy the negative gross operating rates were quite small, less than 5 %, but in Luxembourg this rate was -95.3 % indicating the unusual situation that personnel costs exceeded value added to an extent almost equal to total turnover.

⁽²⁴⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

⁽²⁵⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

22.7: SECURITY SERVICES

The services covered in this subchapter include investigative and surveillance activities, the transport of valuables, bodyguard activities, security guard/watchman activities for residential buildings, offices and factories, as well as consultancy for security services (NACE Group 74.6); the installation of alarm systems is not covered.

STRUCTURAL PROFILE

Value added in the EU-25 investigation and security activities sector (NACE Group 74.6) was estimated at EUR 20.1 billion in 2002, approximately 3.2 % of the business services (NACE Divisions 71, 73 and 74) total and 0.8 % of the non-financial services (NACE Sections G to I and K) total. The United Kingdom contributed EUR 4.9 billion to the EU-25's value added in this sector, close to one quarter (24.6 %) of the total. Poland was the Member State ⁽²⁶⁾ most specialised in the investigation and security activities sector, as its EUR 766.6 million of value added represented 1.9 % of its non-financial services value added. Estonia (1.7 %) and Slovakia (1.6 %) were the next most specialised Member States by this measure.

In terms of employment, the investigation and security activities sector employed 1.0 million persons in the EU-25 in 2002, a 1.5 % share of the non-financial services workforce. As such, this sector's contribution to non-financial services was 1.9 times higher in employment terms than in value added terms.

⁽²⁶⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.26

Investigation and security activities (NACE Group 74.6)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services value added		Non-financial services employment	
	Share of EU-25 value added (%) (1)	value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	specialisation (EU-25=100) (4)
1	United Kingdom (24.6)	Poland (250.2)	United Kingdom (16.4)	Slovakia (246.8)
2	France (16.6)	Estonia (213.9)	France (14.5)	Poland (233.1)
3	Germany (13.7)	Slovakia (211.6)	Germany (13.4)	Estonia (194.8)

(1) Belgium, the Czech Republic and Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Value added within the investigation and security activities sector in the 13 Member States with data available ⁽²⁷⁾, that together accounted for 63.6 % of the EU-25's value added in 2002, grew by 13.4 % per annum on average (in current prices) between 1997 and 2002, which was the highest average growth rate of the business services sectors covered by this chapter.

Cash transportation

According to ESTA ⁽²⁸⁾, there were 65 040 persons employed in cash transport services in the EU in 2004. According to the same source, there was a fleet of 16 000 dedicated security vehicles in operation.

PRODUCTIVITY AND PROFITABILITY

An analysis of labour and productivity ratios for the investigation and security activities sector average shows a situation of relatively low personnel costs and productivity. In 2002, apparent labour productivity in the EU-25 was EUR 19 800 per person employed and average personnel costs were EUR 18 200 per employee, in both cases the second lowest of the business services sectors covered by this chapter, only higher than industrial cleaning services (NACE Group 74.7).

⁽²⁷⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary, Malta and the Netherlands, not available.

⁽²⁸⁾ ESTA (the European Security Transport Association), more information at: <http://www.esta.biz>; EU-25 excluding the Czech Republic, Cyprus, Latvia, Hungary and Slovenia.

The wage adjusted labour productivity ratio of the EU-25's investigation and security activities sector was 108.9 % in 2002, also the second lowest of the business services sectors, in this case above research and development activities (NACE Division 73). Despite this fact, in nearly all Member States ⁽²⁹⁾ wage adjusted labour productivity ratios were above 100 %, the only exceptions being Poland (65.3 %) and Hungary (84.9 %). In a similar vein the investigation and security activities sector recorded a gross operating rate of 10.7 %, which was only higher than the negative rate recorded for research and development activities among the business services sectors.

⁽²⁹⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

22.8: INDUSTRIAL CLEANING SERVICES

Industrial cleaning services cover the interior cleaning of buildings of all types, including offices, hospitals, factories or multi-dwelling residential buildings, the cleaning of public means of transport, window cleaning, chimney sweeping, as well as disinfecting and exterminating activities (NACE Group 74.7). This NACE group excludes agricultural pest control, steam cleaning, sand blasting and similar activities for building exteriors, as well as domestic household cleaning.

Industrial cleaning enterprises respond to the needs of their clients to outsource this kind of service, which could be different between, for example, a hospital, a hotel, or an office. Environmental issues are also important for enterprises in this sector, as they are often users of chemicals and may also be responsible for the collection of waste.

In terms of employment characteristics, workers in this sector are often women working part-time, and cleaning activities are often performed outside of regular working hours.

STRUCTURAL PROFILE

In 2002, value added for the EU-25's cleaning services (NACE Group 74.7) was EUR 40.9 billion which represented 6.5 % of the business services total (NACE Divisions 71, 73 and 74). In value added terms Germany contributed 23.3 % of the EU-25 total, its third largest share among the nine business services subsectors presented in this chapter, while Italy's 14.9 % share was its largest among the business services. In contrast, the United Kingdom's 14.0 % share of EU-25 value added in cleaning services was its lowest share among these business services, around half its share of EU-25 value added for business services as a whole. In terms of value added specialisation compared with non-financial services (NACE Sections G to I and K), Finland and Italy were the most specialised Member States⁽³⁰⁾ in the cleaning services sector, followed by Denmark, Spain and Germany: all of these Member States generated at least 1.9 % of their non-financial services value added in this sector. In contrast, the cleaning services sector contributed 0.5 % or less of non-financial services value added in Malta and the three Baltic States.

⁽³⁰⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.27

Industrial cleaning (NACE Group 74.7)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services		Non-financial services	
	Share of EU-25 value added (%) (1)	value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	employment specialisation (EU-25=100) (4)
1	Germany (23.3)	Finland (146.6)	Germany (25.4)	Germany (159.1)
2	Italy (14.9)	Italy (146.6)	United Kingdom (15.5)	Finland (126.6)
3	United Kingdom (14.0)	Denmark (128.1)	Italy (13.4)	Spain (123.6)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

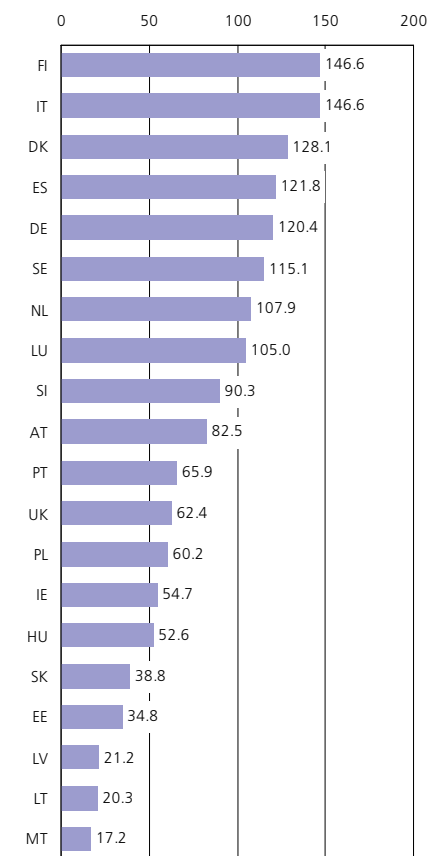
(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

However, it was in terms of employment that this sector contributed most notably to business services, as its 2.7 million strong workforce represented 16.3 % of the EU-25's business services workforce and 4.0 % of the non-financial services workforce in 2002. As such, this sector's contribution to non-financial services employment was 2.5 times higher than its value added contribution. In every Member State the cleaning services sector contributed much more to non-financial services employment than to value added, and this was at its most notable in Ireland, Estonia, the United Kingdom, Germany and Portugal where the employment share was at least three times higher than the value added share. When analysing the cleaning services workforce it should however be borne in mind that structural business services employment figures are head counts, and since part-time employment is very important in this sector, this may well over emphasise this sector's relative importance in employment terms.

Figure 22.15

Industrial cleaning (NACE Group 74.7) Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.28

**Industrial cleaning (NACE Group 74.7)
Value added at factor cost and
employment by enterprise size class,
EU-25, 2001 (% of total)**

	Share of value added	Share of persons employed
Micro enterprises	14.9	10.2
Small enterprises	15.4	13.7
Medium-sized enterprises	20.2	21.7
Large enterprises	49.4	54.4

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

In 2001, a breakdown by enterprise size class (see Table 22.28) shows that large enterprises (with more than 250 persons employed) in the EU-25's cleaning services sector accounted for nearly half (49.4 %) of total value added, which was 1.6 times more than the corresponding proportion in business services as a whole. In contrast, micro enterprises (with less than 10 persons employed) accounted for 14.9 % of sectoral value added, which was less than half the average for business services. This sector, along with some other business services NACE groups, displayed the unusual characteristic that the share of large enterprises in sectoral employment was higher than their corresponding share of value added; this situation also occurred for medium-sized enterprises (with between 50 and 249 persons employed) within the cleaning services sector.

22.9: MISCELLANEOUS BUSINESS ACTIVITIES

Miscellaneous business activities correspond to NACE Group 74.8 and include services such as photographic activities, packaging activities and secretarial and translation activities. In addition, this NACE group also covers the following activities: bill collecting, credit rating, fashion design, activities of interior decorators, activities of fairs and exhibition organisers and activities of agents for artists.

Value added at current prices in the cleaning services sector grew on average by 8.9 % per annum during the period 1997 to 2002 in the 14 Member States with data available ⁽³¹⁾, that together accounted for 58.6 % of the EU-25's value added in 2002.

PRODUCTIVITY AND PROFITABILITY

An analysis of the EU-25's cleaning services sector in 2002 shows a situation with the lowest average personnel costs and apparent labour productivity ratios among the business services sectors in this chapter. In 2002, apparent labour productivity in the EU-25 was EUR 15 000 per person employed and average personnel costs were EUR 12 900 per employee. These ratios are influenced by the high incidence of part-time work in the cleaning services sector.

The wage adjusted labour productivity ratio is not directly influenced by the rate of part-time work, and this was 116.4 % in the EU-25 in 2002 for cleaning services. Although still relatively low, this ratio was much closer to the business services and non-financial services averages than was the case for the two previous indicators and was higher than for several other business services sectors. In all Member States ⁽³²⁾ the wage adjusted labour productivity ratio surpassed 100 % for the cleaning services sector in 2002, except in Poland.

⁽³¹⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary and Malta, not available.

⁽³²⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

The gross operating rate in the EU-25's cleaning services sector was 14.3 % in 2002, 3.1 percentage points above the non-financial services average but 5.2 percentage points below the business services average. As in a couple of other business services sectors, Poland recorded a negative gross operating rate for its cleaning services sector, although it was just -0.5 %. All of the other Member States ⁽³³⁾ recorded a positive gross operating rate in 2002 and in the vast majority of cases the gross operating rates for this sector were above national averages for non-financial services.

⁽³³⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

STRUCTURAL PROFILE

The residual NACE Group 74.8 brings together several heterogeneous business services activities. These activities generated EUR 71.9 billion of value added in the EU-25 in 2002 and accounted therefore for 11.4 % of business services (NACE Divisions 71, 73 and 74) and 2.8 % of non-financial services (NACE Sections G to I and K) value added. There were 2.1 million persons employed in this sector in the EU-25 in 2002 accounting for 12.3 % of the total number of persons employed in business services and 3.0 % of the non-financial services workforce.

The United Kingdom's share of EU-25 value added in this sector was 29.8 % in 2002 and as such it had the largest miscellaneous business activities sector among the Member States. The

United Kingdom was also the Member State ⁽³⁴⁾ most specialised in this sector in terms of its contribution to non-financial services value added (3.7 %), with Sweden (3.3 %) being the only other Member State with a contribution significantly above the EU-25 average. The three Baltic States were the only Member States where this sector contributed less than 1 % of non-financial services value added in 2002. In the majority of Member States the miscellaneous business activities sector's contribution to non-financial services employment was greater than its share of value added, with Slovakia, the United Kingdom, Lithuania, Austria and Germany the only exceptions.

⁽³⁴⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Table 22.29

Miscellaneous business activities n.e.c. (NACE Group 74.8)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (29.8)	United Kingdom (133.2)	United Kingdom (21.2)	Sweden (179.8)
2	Germany (20.5)	Sweden (119.7)	Germany (15.3)	Hungary (146.2)
3	France (14.0)	Germany (105.5)	Italy (11.6)	United Kingdom (114.8)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

A size class analysis of the value added in the EU-25's miscellaneous business activities sector shows that micro enterprises (with less than 10 persons employed) were relatively more important than the average for business services as a whole, generating 35.4 % of value added in this sector in 2001, compared with 30.2 % for other business activities (NACE Division 74). Large enterprises (with 250 or more persons employed) on the other hand generated 22.7 % of the value added for miscellaneous business activities, which was 8.1 percentage points less than the business services average.

Value added (at current prices) within the miscellaneous business activities in the 14 Member States with data available ⁽³⁵⁾, that together accounted for just over two thirds of the EU-25's value added in 2002, grew on average 8.2 % per annum between 1997 and 2002, although growth was stronger earlier in this period, as in 2001 the growth rates was just 0.1 % and in 2002 it was 4.9 %.

PRODUCTIVITY AND PROFITABILITY

In 2002, apparent labour productivity was EUR 35 000 per person employed in the EU-25's miscellaneous business activities sector, just under EUR 3 000 less than the business services and non-financial services averages. Personnel costs per employee averaged EUR 28 300 in the EU-25, which was identical to the business services average and EUR 2 400 above the non-financial services average.

The slightly lower apparent labour productivity resulted in a wage adjusted labour productivity of 123.8 % for the EU-25, which was below the business services and non-financial services averages. In five Member States ⁽³⁶⁾ the wage adjusted labour productivity ratio was below 100 %, indicating that value added per person

⁽³⁵⁾ Belgium, the Czech Republic, Denmark, Germany, Estonia, Greece, Spain, Cyprus, Lithuania, Hungary and Malta, not available.

⁽³⁶⁾ Belgium, the Czech Republic and France, 2001; Greece, not available.

Table 22.30

Miscellaneous business activities n.e.c. (NACE Group 74.8)
Value added at factor cost and employment by enterprise size class, EU-25, 2001 (% of total)

	Share of value added	Share of persons employed
Micro enterprises	35.4	45.7
Small enterprises	20.9	18.8
Medium-sized enterprises	21.0	15.2
Large enterprises	22.7	20.3

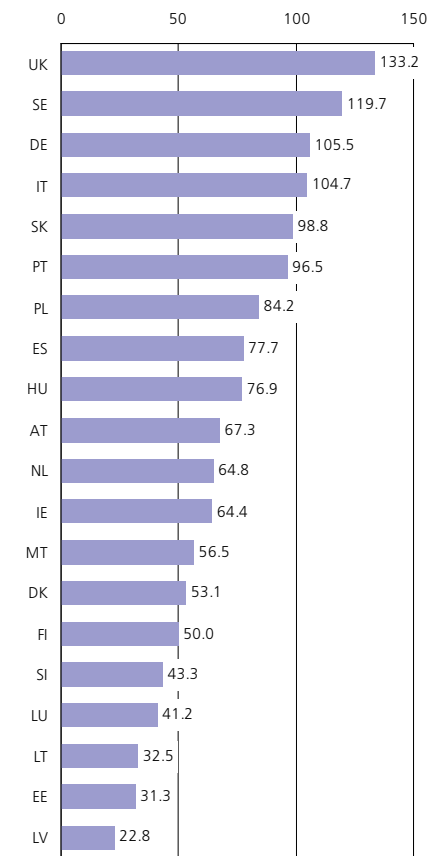
Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

employed was lower than personnel costs per employee. In Slovakia, Germany, Malta and Italy, wage adjusted labour productivity was higher for miscellaneous business activities than for non-financial services as a whole, most notably in Slovakia.

The gross operating rate for the miscellaneous business activities sector was 16.4 % in 2002 in the EU-25, some 5.2 percentage points above the non-financial services average, and just 3.1 percentage points below the business services average. All of the Member States recorded a positive gross operating rate in 2002. Only in Estonia, Latvia and France (2001) was the gross operating rate lower for the miscellaneous business activities sector than it was for non-financial services as a whole. Lithuania recorded its highest gross operating rate for any business services sector within miscellaneous business activities, at 25.7 %, some 17.0 percentage points above the Lithuanian non-financial services average.

Figure 22.16

Miscellaneous business activities n.e.c. (NACE Group 74.8)
Value added specialisation ratio relative to non-financial services, 2002 (EU-25=100) (1)



(1) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.31

Renting of machinery and equipment without operator and of personal and household goods (NACE Division 71)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	116 469	4 468	380	1 709	22 030	53	:	8 089	20 685	1 027	5 504	72	40	36	444	578	33
Production (EUR million) (2)	97 548	3 694	289	1 378	16 859	52	:	7 182	20 045	734	5 518	69	36	33	383	449	32
Value added at factor cost (EUR million) (3)	60 441	1 807	103	733	12 754	24	:	4 160	10 356	461	2 043	46	19	13	171	315	18
Gross operating surplus (EUR million) (4)	47 101	1 557	69	510	10 859	18	:	3 007	7 848	269	1 600	30	6	9	142	263	14
Purchases of goods and services (EUR million) (2)	49 099	2 619	169	990	9 287	30	:	3 862	11 528	577	3 290	25	20	23	270	254	14
Gross investment in tangible goods (EUR million) (3)	:	3 222	145	394	8 523	16	:	4 081	762	246	3 392	15	16	18	:	263	6
Number of persons employed (thousands) (5)	570	9	7	8	81	1	:	70	82	10	33	1	2	1	1	9	1
Personnel costs (EUR million) (4)	13 340	250	34	223	1 896	6	:	1 153	2 493	192	443	16	13	4	29	51	5
App. labour productivity (EUR thous./pers. emp.) (4)	106.1	173.2	14.4	88.1	157.9	20.4	:	59.2	125.5	45.8	61.7	39.9	12.0	8.6	219.1	34.8	21.5
Average personnel costs (EUR thous./employee) (4)	28.7	39.5	7.9	29.2	28.9	5.9	:	21.4	32.3	22.6	27.1	17.5	10.2	3.1	42.2	8.8	8.5
Wage adjusted labour productivity (%) (4)	370.0	438.2	183.0	301.1	546.7	343.9	:	277.2	389.0	202.6	228.1	227.8	117.9	273.4	519.6	395.4	254.2
Gross operating rate (%) (4)	40.4	34.9	20.3	29.8	49.3	33.2	:	37.2	38.4	26.2	29.1	42.4	15.0	24.6	31.9	45.6	40.8
Investment per person employed (EUR thousand) (4)	:	308.8	20.2	47.3	105.5	13.6	:	58.1	180.8	24.4	102.5	13.2	9.7	12.3	:	29.1	7.0
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	7 836	3 457	731	1 573	20	129	682	2 381	32 303	25	:	170	:	:	:	1 883	993
Production (EUR million)	7 548	2 739	732	1 451	18	111	700	2 470	31 392	20	:	194	:	:	:	1 817	817
Value added at factor cost (EUR million)	3 632	2 158	336	972	5	60	314	1 062	17 609	9	:	134	:	:	:	672	296
Gross operating surplus (EUR million)	2 941	1 940	217	838	2	52	206	710	12 912	8	:	123	:	:	:	458	132
Purchases of goods and services (EUR million)	1 391	1 337	368	631	12	74	395	1 429	14 318	15	:	35	:	:	:	1 218	520
Gross investment in tangible goods (EUR million)	3 210	2 594	70	1 403	0	73	316	799	12 912	13	:	152	:	:	:	472	:
Number of persons employed (thousands)	28	8	12	10	0	1	4	14	163	2	:	3	:	:	:	6	4
Personnel costs (EUR million)	691	218	119	134	3	9	108	352	4 697	2	:	10	:	:	:	214	164
App. labour productivity (EUR thous./pers. emp.)	131.0	264.7	27.2	97.4	10.2	45.1	86.4	77.5	108.1	5.2	:	42.6	:	:	:	111.6	71.7
Average personnel costs (EUR thous./employee)	29.5	32.6	20.6	15.7	11.4	6.9	31.8	34.7	31.3	1.3	:	3.7	:	:	:	41.1	:
Wage adjusted labour productivity (%)	444.1	811.7	132.0	621.2	89.5	650.8	271.9	223.4	344.9	403.4	:	1 137.6	:	:	:	271.7	:
Gross operating rate (%)	37.5	56.1	29.7	53.3	8.4	40.1	30.2	29.8	40.0	31.7	:	72.4	:	:	:	24.3	13.3
Investment per person employed (EUR thousand)	115.8	318.1	5.7	140.6	0.4	54.7	87.0	58.3	79.2	6.9	:	48.5	:	:	:	78.3	:

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.

(4) Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.32

Research and development (NACE Division 73)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	34 583	718	163	593	5 377	2	:	738	5 378	158	1 858	0	25	9	230	234	0
Production (EUR million) (2)	35 066	809	145	581	5 302	2	:	713	4 568	137	2 018	0	25	7	230	177	0
Value added at factor cost (EUR million) (3)	15 568	493	62	150	3 883	-1	:	519	1 798	92	953	0	15	3	113	83	0
Gross operating surplus (EUR million) (4)	-98	131	7	-157	267	-2	:	71	105	50	402	0	4	1	7	19	0
Purchases of goods and services (EUR million) (2)	21 554	399	87	493	3 332	3	:	600	3 922	68	1 048	0	11	6	114	150	0
Gross investment in tangible goods (EUR million) (3)	:	78	14	114	1 081	0	:	215	543	9	151	0	2	1	:	26	0
Number of persons employed (thousands) (5)	378	6	6	5	88	0	:	16	31	1	24	0	3	0	2	7	0
Personnel costs (EUR million) (4)	15 666	363	56	307	3 617	1	:	447	1 568	42	551	0	11	2	106	65	0
App. labour productivity (EUR thous./pers. emp.) (4)	41.2	78.0	9.8	29.8	43.9	-4.6	:	33.2	53.8	64.9	39.5	:	4.6	7.6	69.8	11.4	19.6
Average personnel costs (EUR thous./employee) (4)	45.8	60.7	9.2	61.0	43.0	7.1	:	32.8	50.6	34.7	42.2	:	3.3	5.4	65.5	12.7	5.8
Wage adjusted labour productivity (%) (4)	89.9	128.4	106.6	48.8	102.2	-65.4	:	101.2	106.4	187.1	93.6	:	137.8	142.2	106.6	89.9	337.8
Gross operating rate (%) (4)	-0.3	16.4	4.3	-26.5	5.0	-75.9	:	9.7	2.0	31.6	21.6	:	16.1	14.4	3.1	8.0	89.6
Investment per person employed (EUR thousand) (4)	:	12.3	2.2	22.6	12.2	1.0	:	13.7	14.6	6.0	6.3	:	0.6	1.6	:	3.5	0.0
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	2 826	403	107	13	69	102	227	1 946	12 716	4	:	187	:	:	:	683	1 742
Production (EUR million)	2 778	372	102	13	68	100	243	2 102	16 865	4	:	220	:	:	:	664	1 869
Value added at factor cost (EUR million)	1 615	234	46	9	32	46	62	301	4 783	2	:	105	:	:	:	427	865
Gross operating surplus (EUR million)	242	40	-2	4	9	8	-55	-357	-1 086	0	:	20	:	:	:	14	175
Purchases of goods and services (EUR million)	1 372	348	53	5	40	58	184	1 802	7 919	3	:	164	:	:	:	362	1 047
Gross investment in tangible goods (EUR million)	157	60	6	2	12	7	15	136	1 435	0	:	52	:	:	:	33	:
Number of persons employed (thousands)	36	4	3	0	4	5	3	13	106	1	:	29	:	:	:	7	8
Personnel costs (EUR million)	1 373	195	48	5	23	37	117	658	5 869	2	:	85	:	:	:	413	690
App. labour productivity (EUR thous./pers. emp.)	44.5	53.1	16.2	41.0	8.4	8.3	18.6	23.3	45.2	3.0	:	3.6	:	:	:	60.3	107.5
Average personnel costs (EUR thous./employee)	39.3	48.8	24.8	24.0	6.2	6.9	36.2	58.2	56.7	2.8	:	3.1	:	:	:	58.7	:
Wage adjusted labour productivity (%)	113.2	108.9	65.4	170.6	135.6	120.7	51.3	40.0	79.7	107.4	:	117.0	:	:	:	102.8	:
Gross operating rate (%)	8.6	9.8	-1.6	31.5	13.7	8.1	-24.1	-18.3	-8.5	5.8	:	10.8	:	:	:	2.0	10.1
Investment per person employed (EUR thousand)	4.3	13.5	2.1	9.7	3.2	1.2	4.6	10.5	13.6	0.7	:	1.8	:	:	:	4.6	:

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.

(4) Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 22.33

Other business activities (NACE Division 74)
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR billion)	1 092.6	41.9	10.2	16.8	197.4	0.6	:	65.4	194.3	9.8	107.0	0.6	0.5	0.6	2.4	8.0	0.3
Production (EUR billion) (1)	974.5	33.3	7.5	15.5	176.2	0.6	:	50.1	176.6	7.6	109.2	0.6	0.5	0.6	2.3	4.9	0.3
Value added at factor cost (EUR billion) (2)	555.1	14.2	2.4	8.5	113.8	0.3	:	34.2	85.6	5.0	51.2	0.4	0.2	0.2	1.3	2.2	0.2
Gross operating surplus (EUR billion) (3)	194.9	4.1	1.0	1.9	43.5	0.1	:	11.8	10.0	2.2	29.6	0.2	0.1	0.1	0.2	0.9	0.2
Purchases of goods and services (EUR billion) (1)	496.9	20.8	5.6	8.8	95.2	0.4	:	32.2	107.2	4.8	55.3	0.2	0.3	0.3	1.1	5.3	0.1
Gross investment in tangible goods (EUR billion) (2)	:	2.5	0.3	0.6	7.0	0.0	:	3.1	20.8	0.2	3.3	0.0	0.0	0.1	:	0.9	0.0
Number of persons employed (thousands) (4)	15 785	351	333	209	2 948	29	:	1 512	2 032	115	1 694	11	26	31	36	317	9
Personnel costs (EUR billion) (3)	360.2	10.1	1.5	6.6	70.3	0.2	:	22.4	70.9	2.8	21.6	0.2	0.1	0.1	1.1	1.3	0.1
App. labour productivity (EUR thous./pers. emp.) (3)	35.2	38.3	8.0	40.7	38.6	9.3	:	22.6	39.8	43.5	30.2	35.2	9.1	7.4	36.2	6.8	24.4
Average personnel costs (EUR thous./employee) (3)	27.8	33.6	7.6	34.2	27.0	6.6	:	18.2	35.5	28.0	22.6	22.7	3.9	4.9	32.1	7.0	11.5
Wage adjusted labour productivity (%) (3)	126.6	114.0	104.5	118.9	142.8	139.6	:	124.4	112.0	155.1	133.7	154.8	234.7	151.4	112.9	96.9	212.2
Gross operating rate (%) (3)	17.8	11.8	12.1	11.4	22.0	13.2	:	18.1	5.4	22.3	27.7	31.7	25.9	16.6	9.0	11.0	54.5
Investment per person employed (EUR thousand) (3)	:	6.7	1.0	2.7	2.4	1.5	:	2.1	3.7	2.0	2.0	2.2	1.6	2.3	:	2.9	1.4
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR billion)	70.7	19.8	14.2	10.2	2.9	1.7	9.6	32.3	254.8	0.9	:	1.8	:	:	:	16.1	:
Production (EUR billion)	70.5	15.7	12.9	10.1	2.3	1.6	9.0	32.0	249.6	0.9	:	1.8	:	:	:	15.9	:
Value added at factor cost (EUR billion)	32.9	10.4	5.2	4.4	0.9	0.7	4.8	13.7	147.7	0.2	:	0.7	:	:	:	8.1	:
Gross operating surplus (EUR billion)	7.5	4.1	0.7	1.2	0.3	0.4	1.3	1.6	58.2	0.1	:	0.3	:	:	:	1.9	:
Purchases of goods and services (EUR billion)	18.0	9.9	7.8	6.2	2.0	1.0	4.9	20.1	104.8	0.8	:	1.2	:	:	:	8.0	:
Gross investment in tangible goods (EUR billion)	2.1	0.7	0.4	1.2	0.1	0.1	0.3	1.1	8.2	0.1	:	0.4	:	:	:	0.5	:
Number of persons employed (thousands)	1 039	243	635	263	46	52	125	382	3 095	92	:	156	:	:	:	155	:
Personnel costs (EUR billion)	25.4	6.3	4.4	3.2	0.6	0.3	3.5	12.2	89.5	0.1	:	0.4	:	:	:	6.2	:
App. labour productivity (EUR thous./pers. emp.)	31.7	42.7	8.2	16.6	18.8	13.1	38.6	35.9	47.7	2.1	:	4.6	:	:	:	52.4	:
Average personnel costs (EUR thous./employee)	28.1	30.9	13.3	13.6	15.2	6.2	30.8	40.2	32.0	1.9	:	2.7	:	:	:	44.7	:
Wage adjusted labour productivity (%)	112.7	138.1	61.1	122.2	123.4	211.1	125.5	89.3	149.3	113.6	:	169.1	:	:	:	117.4	:
Gross operating rate (%)	10.6	20.7	5.2	11.4	9.2	21.5	13.4	4.8	22.9	6.4	:	18.2	:	:	:	12.0	:
Investment per person employed (EUR thousand)	2.1	2.9	0.6	4.5	2.1	2.1	2.6	3.0	2.7	1.5	:	2.3	:	:	:	3.2	:

(1) EU-25, Belgium, the Czech Republic and France, 2001. (2) Belgium and the Czech Republic, 2001. (3) Belgium, the Czech Republic and France, 2001.

(4) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Communications, information services and media



This chapter encompasses several of the economy's most dynamic activities in terms of technology. Communications, information services and media activities are often associated with the emergence of the so-called 'information society', a society whose wealth and growth is based on its ability to process, store, retrieve and communicate information in whatever form – oral, written or visual.

This chapter gathers together several activities linked to communications, information services and media activities, however, within this group a distinction has to be made between traditional activities (for example, postal and courier services) for which growth is rather stable and other more modern activities (such as electronic information services and multimedia) for which growth developments are more marked.

In terms of coverage, the ambivalence of the media sector that includes both services and manufacturing activities should be noted. This

is a consequence of the way NACE classifies media activities, some of which are considered as manufacturing (the publishing of books or music), while others are seen as services (the production of films).

The Internet is the backbone for the development of the information society. According to information society statistics, 93 % of enterprises in the EU-25 had access to the Internet at the start of 2004 – see Table 23.1 overleaf. An activity breakdown shows that enterprises in the motion picture and video activities and radio and television activities were almost all accessing the Internet. Internet use in the EU-25's business economy ⁽¹⁾ stood at 26 % for all persons in employment, and at 57 % among those who used a computer – see Figure 23.1. An activity breakdown shows that among those who used a computer in their normal working routine,

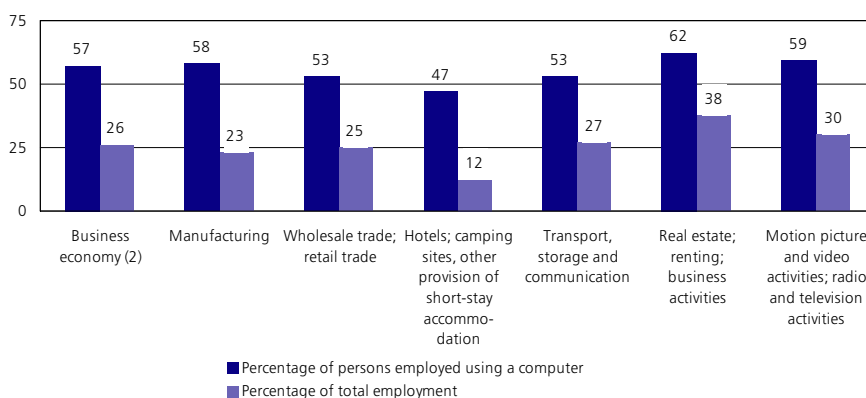
⁽¹⁾ NACE Sections D, F and G, Groups 55.1 and 55.2, Sections I and K and Groups 92.1 and 92.2, for enterprises with 10 or more persons employed.

This chapter addresses two sectors that share the exchange of information as the principal feature of their activity, as well as looking at several activities linked to the media sector. It includes data relating to NACE Divisions 64 and 72 that refer to post, courier and telecommunication services, as well as software and computing services. For the purpose of this publication, media is defined in terms of NACE coverage as the activities of publishing, printing and reproduction of recorded media (NACE Division 22), motion picture and video activities (NACE Group 92.1) and radio and television activities (NACE Group 92.2). The latter two are not covered by SBS data and the availability of official data for both these areas is generally weak. At the beginning of the publication, an overview of some of the main developments with respect to the use of information technology is given in Chapter 1.

NACE

- 22: publishing, printing and reproduction of recorded media;
- 22.1: publishing;
- 22.2: printing and service activities related to printing;
- 22.3: reproduction of recorded media;
- 64: post and telecommunications;
- 64.1: post and courier activities;
- 64.2: telecommunications;
- 72: computer and related activities;
- 72.1: hardware consultancy;
- 72.2: software consultancy and supply;
- 72.3: data processing;
- 72.4: database activities;
- 72.5: maintenance and repair of office, accounting and computing machinery;
- 72.6: other computer related activities;
- 92.1: motion picture and video activities;
- 92.2: radio and television activities.

Figure 23.1
Use of the Internet in normal working routine, EU-25, start of 2004 (1)



(1) Enterprises with 10 or more persons employed.

(2) Covering enterprises in NACE Sections D, F, G, I and K and NACE Groups 55.1, 55.2, 92.1 and 92.2.

Source: Eurostat, Industry, Trade and Services, Information society statistics, Policy indicators

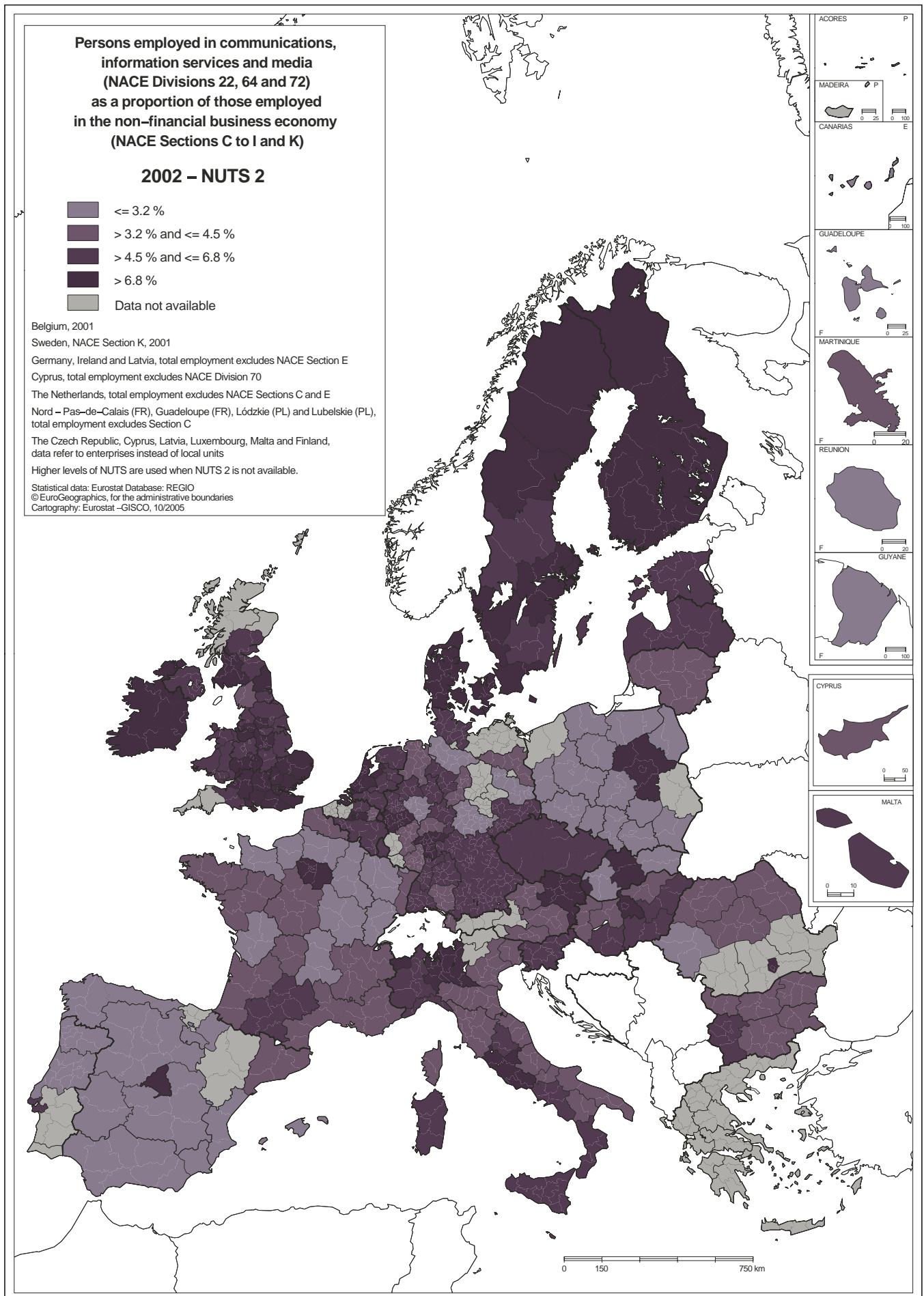


Table 23.1
Percentage of enterprises having access to the Internet at the start of 2004 (1)

	Business economy (2)	Manufacturing	Wholesale trade; retail trade	Hotels; camping sites, other provision of short-stay accommodation	Transport, storage and communication	Real estate; renting; business activities	Motion picture and video activities; radio and television activities
EU-25	93	93	92	90	94	97	98
BE	97	98	96	100	96	100	100
CZ	94	94	93	98	92	96	99
DK	99	100	99	97	99	100	:
DE	97	96	95	97	96	98	100
EE	97	95	98	96	99	98	100
EL	92	90	92	93	96	94	100
ES	91	89	94	95	91	93	96
IE	96	97	93	96	96	98	98
IT	91	90	88	96	91	93	98
CY	88	83	92	92	88	98	100
LV	85	81	85	94	86	92	84
LT	89	86	91	91	92	93	100
LU	92	96	85	93	97	98	100
HU	85	84	82	100	82	91	100
NL	94	95	93	100	92	96	100
AT	98	97	97	100	96	98	100
PL	93	93	91	96	94	97	100
PT	84	86	80	95	92	97	100
SI	98	98	97	100	100	99	100
SK	92	92	94	96	96	92	100
FI	99	99	99	100	98	100	100
SE	99	99	98	100	98	99	100
UK	94	98	92	78	97	98	92
BG	74	73	70	84	81	83	100
RO	61	61	60	73	64	72	87
NO	88	91	81	98	94	92	100

(1) Enterprises with 10 or more persons employed.

(2) Covering enterprises in NACE Sections D, F, G, I and K and NACE Groups 55.1, 55.2, 92.1 and 92.2.

Source: Eurostat, Industry, Trade and Services, Information society statistics, Policy indicators

some 62 % used the Internet within real estate, renting and business services, while the proportion was 59 % for motion picture and video activities and radio and television activities. For a broad picture of the use of the Internet in EU-25 households, according to information society statistics, 43 % of households had access to the Internet at home at the start of 2004 and 38 % accessed the Internet at least once a week. In the northern Member States, usually more than 50 % of households had access to the Internet at home, a pattern that was valid for Denmark (69 %), the Netherlands (65 %), Germany (60 %), Luxembourg (59 %), the United Kingdom (56 %) and Finland (51 %) (2). The lowest shares were recorded in Lithuania, Hungary and Latvia, where 15 % or less of all households had access to the Internet at home. In terms of frequency of use of the Internet, 75 % of Swedish individuals accessed the Internet at least once a week, the largest proportion

recorded among the Member States with available data (3). Denmark, Finland, Luxembourg and Germany also reported that a majority of individuals accessed the Internet at least once a week. At the other end of the spectrum, the lowest frequency of Internet use by this measure was recorded in Greece (17 %).

The eEurope initiative is intended to develop modern public services and a dynamic environment for e-business through widespread availability of broadband access at competitive prices and a secure information infrastructure. Following up on the e-Europe 2005 action plan (4) that finished at the end of 2005, the challenge of a European information society strategy up to 2010 will be driven by a new initiative of the European Commission,

(3) Belgium, France, Malta and the Netherlands, not available.

(4) The eEurope 2005 Action Plan was launched at the Seville European Council in June 2002 and endorsed by the Council of Ministers in the eEurope Resolution of January 2003.

called i2010: European Information Society 2010 (5), which aims to foster growth and jobs in the information society and media industries. For the media sector, the MEDIA programme (6) (extended until the end of 2006) aims to strengthen the competitiveness of the European audiovisual industry with a series support measures (training, development, distribution, promotion, support to festivals). Other legislative developments include the 2004 Commission report on competition policy which announced that antitrust priorities in 2005 would concentrate on telecommunication services, media markets and high-speed Internet access (7).

(5) More information at: http://europa.eu.int/information_society/europe/i2010/index_en.htm.

(6) More information at: http://europa.eu.int/comm/avpolicy/media/index_en.html.

(7) More information at: http://europa.eu.int/comm/competition/annual_reports/2004/en.pdf.

(2) Belgium, Malta and Sweden, not available.

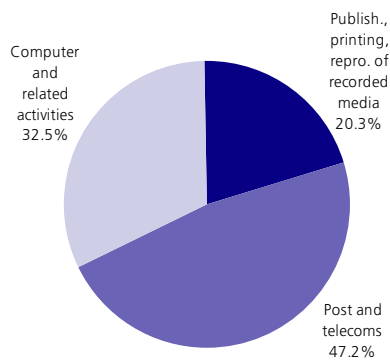
Table 23.2

Communications, information services and media (NACE Divisions 22, 64 and 72)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial business economy value added (%)	Number of persons employed (thousands)	Share of non-financial business economy employment (%)
Communications, information services and media	455 136	17.5	7 471	10.9
Publishing, printing, reproduction of recorded media	92 224	3.6	1 872	2.7
Post and telecommunications	214 888	8.3	3 112	4.5
Computer and related activities	148 024	5.7	2 488	3.6

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 23.2
Communications, information services and media (NACE Divisions 22, 64 and 72)
Breakdown of sectoral value added, EU-25, 2002 (%)



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

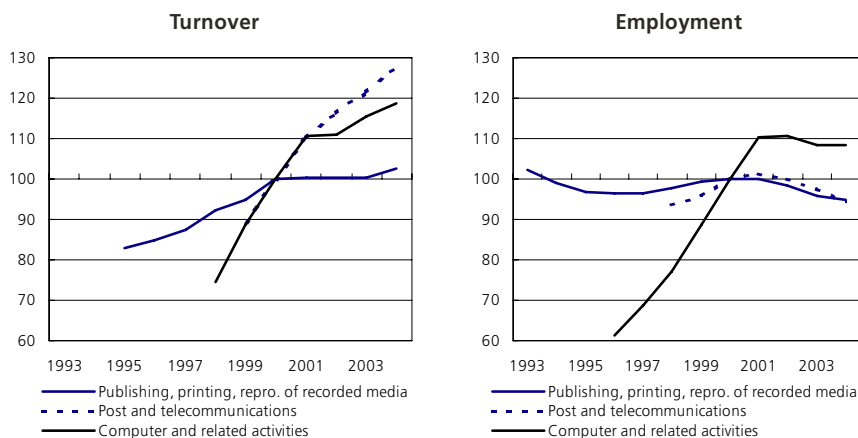
Communications, information services and media (NACE Divisions 22, 64 and 72) together generated EUR 455.1 billion of value added in the EU-25 in 2002 and employed 7.5 million persons. This collection of activities accounted for 17.5 % of value added in the non-financial business economy (NACE Sections C to I and K), but just 10.9 % of employment.

Post and telecommunications (NACE Division 64) generated the largest part of the EU-25's communications, information services and media value added in 2002, accounting alone for almost half (47.2 %) of the total; and 41.6 % of employment. Computer and related activities (NACE Division 72) covered one third (33.3 %) of employment in the communications, information services and media sector, while it represented slightly less in terms of value added (32.5 %). The remaining shares of value added (20.3%) and employment (25.1 %) were in publishing, printing and the reproduction of recorded media (NACE Division 22).

In 2002, the United Kingdom and Germany were the largest Member States for each of the three NACE divisions that compose the EU-25's communications, information services and media sector. They together accounted for more than a third of total value added or employment in the EU-25 in each of the NACE divisions. Moreover, it can be noted that the value added contribution to the EU-25 total was higher in the United Kingdom than the employment contribution in each of these subsectors. In Germany, this pattern was observed only for computer and related activities. Looking at the relative importance of the subsectors among the Member States with data available for 2002⁽⁸⁾ for all three NACE divisions, Ireland and Slovenia stood out from the rest of the Member States in publishing, printing, and the reproduction of recorded media, as this industrial subsector contributed 30.9 % and 30.8 % respectively of communications, information services and media value added, 1.5 times the average share for the EU-25. Turning to the first of the services subsectors, namely post and telecommunications, this was the largest of the three subsectors in all of the Member States except for Sweden and the United Kingdom. Its share of communications, information services and media value added was close to or exceeded two thirds in Portugal and all of the Member States that joined the EU in 2004 except Slovenia, and this share reached three quarters (75.4 %) in Cyprus. The other services subsector, namely computer and related activities, was the largest of the three subsectors only in Sweden and the United Kingdom, where it generated 41.7 % and 39.7 % of the sector's value added respectively.

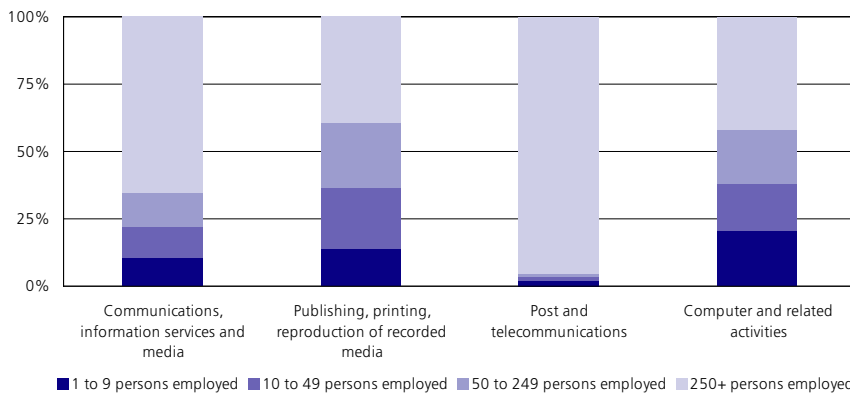
⁽⁸⁾ Belgium, the Czech Republic and Latvia, 2001; Luxembourg and Poland, incomplete; Greece, not available.

Figure 23.3
Communications, information services and media (NACE Divisions 22, 64 and 72)
Evolution of main indicators, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Figure 23.4
Communications, information services and media (NACE Divisions 22, 64 and 72)
Share of value added by enterprise size class, EU-25, 2001



Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics broken down by size classes

Time series for the indices of turnover and employment for the NACE divisions that compose communications, information services and media are generally available for the years 1998 to 2004 for the EU-25, with longer series for the industrial activity of publishing, printing, and the reproduction of recorded media. Looking first at post and communications and computer and related activities, turnover and employment tended to develop at a very fast rhythm in 2000 and 2001, with annual growth rates above 10 % for turnover in both activities and for employment in computer and related activities. However, from 2002 to 2004, turnover grew at a slower pace and negative developments were systematically registered for employment in post and telecommunications, while employment contracted in 2003 for computer and related activities.

Employment for publishing, printing, and the reproduction of recorded media also recorded negative developments from 2002 to 2004, following on from growth from 1997 to 2001 (increases of less than or equal to 1 %, except for an increase of 1.9 % in 1999). Turnover in this activity grew between 1995 and 2001 by an annual average of 3.3 %. However output in turnover terms stagnated in 2002 and 2003, but the data for 2004 shows that growth returned with turnover expanding by 2.4 %.

Large enterprises (with 250 and more persons employed) contributed the highest share of EU-25 value added in 2001 for each of the NACE divisions covered within this chapter. Their importance varied considerably between the activities, as 39.3 % of the value added generated within the publishing, printing and the reproduction of recorded media sector was created by large enterprises (compared to 57.2 % for the whole of the industrial - NACE

Sections C to E - economy), while large enterprises accounted for 41.9 % of value added for computer and related activities, and as much as 95.1 % of the total for post and telecommunications.

EMPLOYMENT CHARACTERISTICS

The workforce in the communications, information services and media sector showed characteristics that resembled more closely features generally found within manufacturing activities. Indeed, in the EU-25, there was a predominance of male employment among the three NACE divisions that compose this chapter and part-time was used in a relatively low proportion compared to the services sector. In 2004, the share of men in publishing, printing, reproduction of recorded media and post and telecommunications workforces was slightly higher than 60 % (respectively 60.4 % and 60.6 %) and for computer and related activities it reached slightly more than three quarters (75.9 %), with an average for the communications, information services and media sector of 65.3 %. More than four fifths of the workforce worked full-time in each of the three subsectors, with an average of 85.8 % for the sector as a whole: 81.9 % for publishing, printing, reproduction of recorded media, 84.7 % for post and telecommunications and 90.9 % for computer and related services. For comparison, on average in the EU-25's services sector (NACE Sections G to K) in 2004, men represented 55.6 % of the workforce and 80.3 % of the persons employed worked full-time.

Looking at the structure of the EU-25 workforce by age class, the relatively low share (9.3 %) of younger workers (aged less than 25) was more typical of industrial activities rather than service activities. This share was

particularly low in the two services subsectors, namely post and telecommunications (9.3 %) and computer and related activities (8.0 %). The share of older workers (aged 50 or over) was also low in this sector, at 18.6 %, but this was not a common characteristic between the subsectors, as this age group of workers represented just 11.7 % of the computer and related activities workforce, whereas it was close to the business economy (NACE Sections C to K) average (21.2 %) for both publishing, printing, reproduction of recorded media (22.6 %) and post and telecommunications (21.1 %).

PRODUCTIVITY AND PROFITABILITY

The relative dynamism of the communications, information services and media sector was visible from some selected measures of productivity and profitability. In 2002, EU-25 apparent labour productivity in the three subsectors ranged from EUR 49 300 for publishing, printing, and the reproduction of recorded media to EUR 69 100 for post and telecommunications. The average for the whole sector was EUR 60 900, some EUR 20 300 higher than the non-financial business economy (NACE Sections C to I and K) average. However, high productivity was accompanied by relatively high personnel costs: with averages per employee that were very close to EUR 35 000 for publishing, printing, and the reproduction of recorded media, and post and telecommunications, while for computer and related activities they were much higher at EUR 49 100; for comparison all of these values were well above the average for the non-financial business economy (EUR 28 200). When adjusted for the share of employees in persons employed, value added represented 192.2 % of personnel costs for post and telecommunications, 139.1 % for publishing, printing, and the reproduction of recorded media, and 121.2 % for computer and related activities: of these only the value for post and telecommunications was above the non-financial business economy average of 144.0 %.

One measure of profitability is the gross operating rate, based on the relationship between the gross operating surplus (value added minus personnel costs) and turnover. The gross operating surplus represented almost one quarter (23.6 %) of the turnover generated within the post and telecommunications sector, some 8.6 percentage points above the rate recorded for computer and related activities and 10.5 points higher than for publishing, printing, and the reproduction of recorded media. The average gross operating rate for the sector as a whole was 18.5 %, 7.7 percentage points higher than the non-financial business economy average.

Table 23.3

Communications, information services and media (NACE Divisions 22, 64 and 72)
Labour force characteristics, 2004

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	65.3	116.4	85.8	107.6	9.3	72.1	18.6
BE	74.1	124.9	88.4	112.2	6.6	74.6	18.8
CZ	52.1	95.2	92.0	97.9	8.8	68.6	22.5
DK	63.7	105.6	82.0	113.2	12.1	68.1	23.5
DE	63.3	121.3	78.2	107.9	9.8	69.8	20.4
EE	:	:	:	:	:	:	:
EL	66.7	108.7	96.4	100.5	9.2	71.9	:
ES	63.8	114.4	94.1	104.9	10.5	75.4	14.1
FR	58.9	102.7	88.6	104.6	7.2	73.9	18.8
IE	69.9	125.6	92.2	118.9	11.0	76.0	:
IT	70.0	117.9	92.3	110.1	6.6	75.8	17.6
CY	64.9	119.1	98.0	107.6	:	82.8	:
LV	44.0	86.9	77.3	85.4	:	62.2	:
LT	:	:	90.7	96.7	:	76.6	:
LU	74.4	125.6	84.7	100.7	:	80.1	:
HU	57.1	103.9	95.1	100.5	8.5	75.3	16.2
MT	:	:	:	:	:	:	:
NL	71.8	123.9	61.0	113.4	17.6	66.6	15.8
AT	72.1	142.7	82.4	114.3	10.4	81.4	12.7
PL	54.3	98.3	92.4	103.1	:	79.9	12.5
PT	65.5	118.7	95.2	102.7	:	69.6	:
SI	60.3	113.1	93.7	102.4	:	77.3	:
SK	53.8	102.8	94.3	97.7	:	77.6	:
FI	63.0	114.0	85.7	103.7	9.4	67.9	22.7
SE	65.7	109.3	83.3	110.1	8.9	65.4	25.7
UK	72.5	128.3	87.2	125.0	9.2	70.4	20.3

(1) Ireland and Austria, 2003; Denmark, 2002.

(2) Austria, 2003

Source: Eurostat, Labour market, Total employment - LFS series

Table 23.4

Communications, information services and media (NACE Divisions 22, 64 and 72)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	Ireland (148.2)	Belgium (48.3)	Ireland (349.5)	Cyprus (43.6)
2	United Kingdom (73.5)	United Kingdom (47.6)	Latvia (326.4)	Malta (43.4)
3	Netherlands (73.2)	Sweden (46.2)	Lithuania (263.3)	Latvia (42.8)

(1) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Luxembourg and Poland, not available.

(2) Belgium, the Czech Republic, France and Latvia, 2001; Greece, Cyprus, Luxembourg and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

23.1 POSTAL AND COURIER SERVICES

This subchapter covers NACE Group 64.1, which includes both national post activities and other courier activities. National post activities (NACE Class 64.11) include the pick-up, transport and delivery (domestic or international) of mail and parcels, and other services such as P.O. boxes or poste restante. Courier activities other than national post activities are covered by NACE Class 64.12 and include mainly express courier services, where enterprises have widened their initial focus on business documents towards the transfer of packages and freight too, and as such the classification of enterprises as couriers or transport enterprises can be difficult.

Within the EU, national public postal operators dominate the market for letter services. However, the competitive environment in this sector is changing as there have been developments towards market liberalisation. Indeed, gradual and controlled opening of postal markets was foreseen since 1994, within a Council Resolution on universal service principles in the telecommunications sector of 7 February 1994. Since 1994, other steps led to the adoption of the Postal Directive (2002/39/EC) in June 2002 that mainly focused on the opening to competition of all outgoing cross-border mail from 1 January 2003 and sets 1 January 2009 as a possible date for the full accomplishment of the internal market for postal services, to be confirmed (or changed) by a co-decision procedure. Indeed, under the timetable set by the directive, in 2007 the EU-25's Member States will discuss opening their markets completely by 2009. Norway, not an EU-25 Member State, plans to open its market in 2007; while at the time of drafting, Sweden, Finland and Estonia have already opened their markets to international competition.

From the supply side, both public and private operators run postal and courier activities. Universal service providers (USPs), be they publicly or privately owned, continue to provide the majority of general letter services and in most countries they still operate as a monopoly; they have exclusive rights, balanced by the fact they have a universal service obligation. Private operators dominate the express services market, providing letter and parcel services, specifically to the business-to-business, direct mail and business-to-private segments of the market.

Traditional mail products are increasingly substituted by new technologies such as electronic mail and the Internet, as well as alternatives ways of communications (for example, telephone or fax) that make information available in a fast manner.

According to the IPC ⁽⁹⁾, among the EU-15 Member States, the average number of delivery days for intra-EU-15 mail was longest for mail sent to Greece, taking from 2.5 days (from Denmark, Germany and Austria) to 3.6 days (from Ireland and Portugal) – see Table 23.7 overleaf. For mail originating from Greece, 2.6 days were needed on average to reach Finland, the longest delivery time among the EU-15 Member States.

⁽⁹⁾ IPC (International Post Corporation), more information at: <http://www.ipc.be>.

Table 23.5
Postal services in the EU-25

	1999	2000	2001	2002	2003
Total number of staff (thousands)	1 488	1 466	1 439	1 433	1 386
of which, working part-time (%)	19.5	18.9	19.5	19.8	20.2
Total number of permanent post offices (units)	106 288	104 996	103 774	103 018	101 346
of which, staffed by people from outside the administration (%)	29.3	31.1	34.2	34.9	34.7
Number of letter-post items, domestic service (millions)	106 655	111 113	112 128	113 042	113 312
Number of letter-post items, international service-dispatch (millions)	3 519	3 428	3 272	2 970	2 894
Ordinary parcels, domestic services (millions)	1 192	1 151	1 114	1 098	1 060
Ordinary parcels, international service-dispatch (millions)	14	14	14	14	14

Source: UPU, <http://www.upu.int>, postal statistics database

Table 23.6

Postal services, 2003

	Access to postal services (units)				Number of letter post items treated by national post (millions)		
	Number of sorting centers (1)	Total number of permanent post offices	Average number of inhabitants served by a permanent office	Number of post boxes	Number of letter-post items, domestic service (2)	Number of letter-post items, international service - dispatch (3)	Number of letter-post items, international service - receipt (4)
BE	5	1 301	7 931	:	:	:	:
CZ	20	3 430	2 984	42 368	2 723	29	50
DK	150	1 019	5 264	42 883	1 153	:	:
DE	115	13 514	6 103	977 000	20 840	:	:
EE	1	549	2 410	14 101	39	4	6
EL	23	2 218	4 949	73 440	528	52	42
ES	53	3 343	12 283	:	5 248	230	151
FR	:	16 992	3 540	:	17 201	:	:
IE	15	1 658	2 386	4 700	635	88	107
IT	:	13 728	4 183	:	6 344	:	:
CY	1	1 123	714	24 158	52	11	11
LV	1	964	2 394	28 126	46	4	4
LT	1	:	:	9 541	41	5	5
LU	1	108	4 196	6 659	107	44	28
HU	10	3 102	3 184	77 683	1 150	14	20
MT	6	50	7 885	1 843	43	5	8
NL	11	2 577	6 267	187 000	5 384	:	:
AT	10	2 007	4 044	25 167	873	:	:
PL	13	8 304	4 647	:	2 464	40	49
PT	9	3 537	2 845	157 336	980	56	46
SI	2	554	3 581	18 291	674	8	12
SK	46	1 617	3 341	23 555	321	10	14
FI	8	1 346	3 868	50 000	820	24	39
UK	807	15 868	3 734	120 000	20 749	627	469

(1) Denmark, includes 141 minor delivery centres.

(2) Denmark, not including registered items, insured letters, newspapers, unaddressed advertising items and hybrid mail; Estonia, not including registered items, insured letters, newspapers, advertising items and hybrid mail; Spain, not including hybrid mail; France, including the international service but not including newspapers or unaddressed advertising items; Cyprus and Malta, not including registered items; Latvia, not including registered items, insured letters, newspapers and unaddressed advertising items; Lithuania and Luxembourg, excludes newspapers, unaddressed advertising items and hybrid mail; Hungary, not including registered items, insured letters and newspapers; Netherlands, addressed items only; Austria, not including registered items, insured letters, newspapers and advertising items; Poland, not including newspapers; Portugal, excludes advertising items; Slovakia, excludes registered items, insured letters and hybrid mail; Finland, excludes newspapers and advertising items.

(3) Estonia, not including registered items, insured letters, advertising items and hybrid mail; Spain, not including hybrid mail; Cyprus, not including registered items and insured letters; Latvia, not including registered items, insured letters and advertising items; Luxembourg, excludes unaddressed advertising items and hybrid mail; Hungary, not including registered items and insured letters; Malta, not including registered items; Poland, not including registered items, insured letters and advertising items; Slovakia, not including hybrid mail; Finland, excludes advertising items.

(4) Estonia, not including registered items and insured letters; Cyprus, not including registered items and insured letters; Latvia, not including registered items and insured letters; Hungary, not including registered items and insured letters; Malta, not including registered items; Poland, not including registered items and insured letters; Finland, excludes advertising items.

Source: UPU, <http://www.upu.int>, postal statistics database

Table 23.7
Average number of delivery days for intra-EU-15 mail, 2004 (units) (1)

Destination	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Origin															
BE	~	2.1	2.0	2.6	2.4	2.1	2.6	2.3	2.0	2.0	2.1	2.2	2.1	2.1	2.2
DK	2.1	~	1.9	2.5	2.4	2.1	2.4	2.3	2.3	2.1	2.0	2.2	2.0	1.8	2.1
DE	2.0	1.9	~	2.5	2.4	2.0	2.3	2.2	1.9	1.9	1.9	2.1	2.1	2.0	2.1
EL	2.2	2.5	2.2	~	2.4	2.3	2.5	2.4	2.3	2.2	2.5	2.4	2.6	2.3	2.4
ES	2.3	2.2	2.2	3.0	~	2.2	2.5	2.4	2.3	2.2	2.3	2.1	2.6	2.3	2.3
FR	2.3	2.4	2.2	3.0	2.7	~	2.7	2.4	2.2	2.2	2.3	2.4	2.4	2.5	2.3
IE	2.7	2.5	2.4	3.6	3.0	2.5	~	2.7	2.5	2.4	2.9	2.9	2.9	2.7	2.5
IT	2.4	2.4	2.3	2.8	2.6	2.3	2.7	~	2.5	2.3	2.3	2.3	2.6	2.4	2.5
LU	1.9	2.1	1.9	2.6	2.4	2.0	2.5	2.2	~	2.0	2.1	2.1	2.2	2.1	2.1
NL	2.0	1.9	1.9	2.6	2.3	2.1	2.2	2.3	2.0	~	2.1	2.0	2.1	1.9	2.0
AT	2.1	2.0	1.9	2.5	2.5	2.2	2.7	2.2	2.1	2.0	~	2.1	2.2	2.1	2.3
PT	2.2	2.0	2.0	3.6	2.2	2.0	2.6	2.3	2.0	2.1	2.4	~	2.7	2.2	2.3
FI	2.2	2.0	2.0	2.8	2.5	2.2	2.5	2.4	2.2	1.9	2.0	2.0	~	1.9	2.3
SE	2.1	1.8	2.0	2.8	2.3	2.1	2.3	2.3	2.3	1.9	2.0	2.2	1.9	~	2.1
UK	2.3	2.3	2.3	3.1	2.6	2.4	2.6	2.6	2.4	2.4	2.5	2.3	2.4	2.4	~

(1) The method of calculation is based on a five days business week – that excludes Saturdays and Sundays, and excludes national and regional public holidays in the destination country; the following countries have Saturday mail delivery: Denmark, France, Germany, Italy, Netherlands and the United Kingdom.

Source: UNEX - Unipost Quality of Service Monitoring, International Post Corporation, 2004

Table 23.8
Post and courier activities (NACE Group 64.1)
Structural profile, EU-25, 2002

	Value added (EUR million)	Share of non-financial services value added (%)	Number of persons employed (thousands)	Share of non-financial services employment (%)
Post and courier activities	57 143	2.2	1 895	2.8
National post activities	38 142	1.5	1 275	1.9
Courier activities other than national post activities	19 001	0.7	620	0.9

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 23.9
Post and courier activities (NACE Group 64.1)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	Germany (21.1)	Sweden (139.3)	Germany (20.3)	Slovakia (189.9)
2	France (20.0)	Slovakia (123.8)	France (16.9)	France (132.5)
3	United Kingdom (19.2)	Slovenia (119.2)	United Kingdom (16.4)	Belgium (127.9)

(1) Belgium, France, Cyprus and Luxembourg, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

(2) Belgium, the Czech Republic, Denmark, Estonia, Greece, France, Ireland, Cyprus, Luxembourg, Malta, the Netherlands and Poland, not available.

(3) France, Cyprus, Luxembourg and the Netherlands, 2001; Denmark, Estonia, Greece, Ireland, Malta and Poland, not available.

(4) France, Luxembourg and the Netherlands, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Malta and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

STRUCTURAL PROFILE

Postal and courier activities (NACE Group 64.1) generated EUR 57.1 billion of value added in the EU-25 in 2002, which equated to 2.2 % of the non-financial services (NACE Sections G to I and K) total. With 1.9 million persons employed, these activities represented 2.8 % of the non-financial services workforce. This illustrates one of the main characteristics of postal and courier activities, namely that they tend to have a relatively high reliance on labour input.

National post activities (NACE Class 64.11) accounted for 66.7 % of postal and courier activities value added in the EU-25 in 2002, while employing 67.3 % of the sectoral workforce, showing that apparent labour productivity per person employed was somewhat lower for national post activities than for courier activities other than national post activities (NACE Class 64.12).

Among the Member States ⁽¹⁰⁾, Germany generated 21.1 % of the EU-25's postal and courier activities value added in 2002, France (2001) accounted for 20.0 % and the United Kingdom for 19.2 %. However, among the Member States with available data ⁽¹¹⁾, relative to non-financial services value added, the importance of postal and courier activities was most marked in Luxembourg (3.9 % of non-financial services value added), France and Sweden (both 3.1 %). At the other end of the spectrum, the lowest proportion of non-financial services value added coming from postal and courier activities was observed in Spain (1.1 %) and the two Baltic States of Latvia (1.2 %) and Lithuania (1.3 %).

Annual short-term statistics for post and courier activities in the EU-25 provide a picture of the development of the turnover index over the period 2000 to 2004. Annual growth rates for post and courier activities were at least 4.1 %, with the fastest increase observed in 2003 when turnover rose by 6.3 % compared with the year before. The rhythm of growth for turnover in post and courier services was nonetheless less significant during the years 2001, 2002 and 2004 than for the other communications activity, namely telecommunications.

According to data collected by the UPU ⁽¹²⁾ from its postal administration members, there were about 101 300 permanent post offices in the EU-25 in 2003 - based on data available in Table 23.5 on page 387 - a figure that contracted by 4.6 % compared with the number of post offices registered five years before (1999). Indeed, national postal services have rationalised their networks in recent years by closing post offices, while ensuring service access by increasing the number of post boxes. Turning to letter post, according to the UPU, the number of items for both domestic and international dispatch reached 116.2 billion letters in the EU-25 in 2003, of which more than 97 % was for domestic dispatch. Moreover, the volume of letter post items for domestic dispatch has grown during the last four years for which data are available, by 6.2 % overall between 1999 and 2003. Ordinary parcels for both domestic and international dispatches amounted to 1.1 billion in 2003, of which more than 98 % was handled within the domestic market. According

⁽¹⁰⁾ Belgium, France, Cyprus and Luxembourg, 2001; Denmark, 2000; Czech Republic, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

⁽¹¹⁾ Belgium, France and Luxembourg, 2001; Denmark, 2000; Czech Republic, Cyprus, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

⁽¹²⁾ UPU (Universal Post Union), more information at: <http://www.upu.int>.

Table 23.10
Post and courier activities (NACE Group 64.1)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (81.2)	Luxembourg (48.2)	Luxembourg (168.5)	Cyprus (33.9)
2	Sweden (41.0)	France (35.0)	Cyprus (163.6)	Latvia (21.9)
3	France (37.2)	Belgium (34.0)	Latvia (146.0)	Luxembourg (21.8)

(1) Belgium, France, Cyprus and Luxembourg, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

to UPU, German national post treated the largest number of post-items for domestic use (20.8 billion) in 2003, followed closely by the United Kingdom (20.7 billion) and France (17.2 billion) ⁽¹³⁾ - see Table 23.6 on page 388. Relative to the number of letter post items treated by the national post, the Czech Republic, Poland and the United Kingdom had the highest domestic proportion of postal traffic (more than 95 % of total traffic), while Luxembourg had the lowest domestic proportion of postal traffic (60.0 %). In terms of access to postal services ⁽¹⁴⁾, Cyprus had by far the densest postal network, as each permanent post office served on average only 714 inhabitants, while this ratio reached one office per 12 283 persons in Spain. Note that most of the Member States that have a relatively high density of postal offices were Member States that joined the EU in 2004, joined by France, Portugal and Ireland, with an average of less than 3 600 inhabitants per post office. According to the same source, France recorded the largest absolute number of permanent post offices in 2003 (16 992), followed by the United Kingdom (15 868), while Luxembourg accounted for the smallest number (108).

PRODUCTIVITY AND PROFITABILITY

With EUR 30 100 of value added generated per person employed in 2002, the EU-25's post and courier services recorded a relatively low level of apparent productivity compared with most of the other non-financial services at the level of NACE groups, EUR 7 100 below the average for non-financial services. However, among the Member States ⁽¹⁵⁾, Italy, Portugal and Luxembourg reported higher apparent labour productivity for post and courier activities than their non-financial services average.

⁽¹³⁾ Belgium and Sweden, not available.

⁽¹⁴⁾ Lithuania and Sweden, not available.

⁽¹⁵⁾ Belgium, France and Luxembourg, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Cyprus, Malta, the Netherlands and Poland, not available.

Despite a relatively low level of apparent labour productivity, EU-25 average personnel costs per employee were generally high compared with other non-financial services NACE groups. Indeed, personnel costs averaged EUR 27 100 per employee, which was EUR 1 200 higher than the non-financial services average. Some Member States nevertheless recorded lower average personnel costs for post and courier activities than for non-financial services, with the highest difference recorded within the Nordic Member States of Sweden and Finland (with at least EUR 7 500 difference), while more modest differences were observed in Spain, Germany, Slovakia, Belgium, Lithuania, Latvia, and Hungary (all with average personnel costs at least EUR 3 500 lower for post and courier activities than their non-financial services average). As a consequence the wage adjusted labour productivity ratio (once adjusted for the number of employees in persons employed) was 111.4 % in the EU-25's post and courier activities, 34.5 percentage points below the non-financial services average in 2002. This pattern of a low wage adjusted labour productivity ratio was confirmed in all but two of the Member States with available data, the only exceptions being Luxembourg and Sweden.

The gross operating rate is a measure of profitability and for the EU-25's post and courier activities this was 8.3 % in 2002, a rate that was rather low compared with most of the other non-financial services. For comparison, the average gross operating rate for non-financial services was 2.9 percentage points higher than that for post and courier activities. Among the Member States with available data in 2002 few diverged from the EU-25 pattern of somewhat lower gross operating rates for post and courier activities. However, it can be noted that the gross operating rate was at least 7.4 percentage points higher for post and courier services compared with non-financial services in Slovakia, Lithuania and Latvia and this gap rose to as much as 13.4 percentage points in Sweden.

23.2 TELECOMMUNICATION SERVICES

Telecommunications services (NACE Group 64.2) embrace the distribution of sound, images, data and other information via cables, broadcasting, relay or satellite. These services include both the management and maintenance of networks and the provision of services using these networks, including the provision of radio and television services, but not the production of radio and television programmes (which are covered in Subchapter 23.5).

Liberalisation moves in the telecommunications sector began in the first half of the 1980s and concerned value added services or business users, while basic services were left in the hands of national monopolies. The telecommunications sector used to be characterised by heavy regulation and legal and economic monopoly. However, by 1998, telecommunications were in principle liberalised in all of the Member States.

According to some commentators, although overall expenditure on telephony has increased, the share of fixed-line voice operators is shrinking as mobile and data service providers capture most of the growth. Newcomers to the telephone market, such as cable companies or mobile telephone operators, have not only made considerable gains in market share but also, with help from tariff reductions imposed by regulators, brought down prices. To reverse this decline, former national telephone monopolies have embarked on a range of initiatives aimed at keeping their customers and winning back some of those lost.

Information on the number of operators and service providers in the EU-25 Member States is presented in Table 23.11 for the year 2004. In some Member States, the same operators for the fixed network offer local and long distance national and international telecommunications, while in others some operators specialise in particular services. Mobile phone operators were most numerous in the Nordic Member States (22 in Denmark and Sweden and 15 in Finland), while Spain (14) and France (10) had the next largest number of mobile phone operators. On the other hand, three of the smaller Member States that joined the EU in 2004 posted the smallest number of mobile phone operators in 2004, with just two operators in Cyprus, Malta and Slovakia (where the relatively low size of the population may limit the number of potential entrants). Otherwise, the number of mobile operators was not particularly linked to the population size of the Member States, as for instance Estonia had five operators in 2004, while Italy and the

Table 23.11 Number of operators and service providers in telecommunications (NACE Group 64.2), 2004 (units) (1)

	Fixed network operators offering local national telecommunications (2)	Fixed network operators offering long distance national telecommunications (3)	Operators offering international telecommunications (4)	Cellular mobile operators (5)	Internet service providers (5)
BE	48	48	48	3	92
CZ	83	83	83	3	1 132
DK	49	49	45	22	49
DE	525	525	525	4	900
EE	29	29	17	5	135
EL	16	14	17	4	170
ES	36	69	72	14	168
FR	21	27	27	10	34
IE	25	25	25	3	20
IT	:	:	:	4	333
CY	7	7	15	2	17
LV	8	8	15	3	129
LT	9	9	21	3	98
LU	5	5	8	3	31
HU	42	54	56	3	121
MT	1	1	10	2	15
NL	29	33	32	5	:
AT	38	38	36	8	270
PL	88	88	88	3	108
PT	12	12	12	3	30
SI	1	1	12	4	61
SK	39	39	39	2	211
FI	44	10	14	15	98
SE	50	50	50	22	100
UK	5	200	107	4	700

(1) The data for the number of fixed network operators offering local and long distance national telecommunications cover facilities based or resale; for international telecommunications and the number of cellular mobile operators, data cover digital or analogue, facilities based or resale; data for Internet service providers cover access and backbone services.

(2) Germany, Latvia, Luxembourg, Austria, Finland and Sweden, 2003; the United Kingdom, 2002.

(3) Germany, Greece, Spain, Latvia, Luxembourg and Austria, 2003; the United Kingdom, 2002.

(4) Germany, Spain, Latvia, Luxembourg, Austria, Finland and Sweden, 2003; the United Kingdom, 2002.

(5) Italy, Luxembourg, Finland and Sweden, 2003; the United Kingdom, 2002.

Source: Eurostat, Industry, trade and services, Information society statistics, Telecommunication services

United Kingdom had four each. In 2004 the number of Internet service providers among the Member States (including access and backbone service providers) passed 300 in Italy, the United Kingdom, Germany and the Czech Republic.

One of the latest innovations in the telecommunication sector is Internet telephony (Voice over Internet Protocol - VoIP) services. According to the European Commission ⁽¹⁶⁾, these services were used by only a fraction of the population, mostly businesses: it was estimated that there were some 4.9 million users in Japan, 1.0 million in the United States, while by the beginning of 2005 there were an estimated 220 000 users in France, 110 000 in

Germany and 50 000 in the United Kingdom. The European Regulators Group (ERG) agreed in February 2005 to a hands-off approach to VoIP regulation at European level until further developments occur in this emerging market.

In terms of legislation, services or networks that transmit communications electronically, whether they be wireless or fixed, carrying data or voice, Internet based or circuit switched, broadcasting or personal communication are all covered by a set of EU rules that became applicable on 25 July 2003. The EU regulatory framework for electronic communications will be reviewed in 2006.

⁽¹⁶⁾ More information on the Euractiv web-site at: <http://www.euractiv.com>, see the Information Society policy section.

STRUCTURAL PROFILE

Telecommunication services (NACE Group 64.2) generated EUR 157.7 billion of value added in the EU-25 in 2002, accounting for 6.1 % of total value added in the non-financial services (NACE Sections G to I and K) sector, the second largest non-financial services activity (at the NACE group level) after legal, accountancy and management services (NACE Group 74.1). The 1.2 million persons employed in telecommunication services represented a significantly lower share of the non-financial services workforce (at just 1.8 %).

The United Kingdom and Germany had the largest telecommunications sectors in the EU-25 in 2002, with 19.9 % and 17.1 % respectively of the total value added. This sector was of comparable size in France (13.1 % of EU-25 value added, 2001) and Italy (12.8 %), while apart from Spain (8.8 %) none of the remaining Member States ⁽¹⁷⁾ contributed more than 2.1 % to EU-25 value added.

However, the highest levels of specialisation in telecommunications (relative to non-financial services value added) were found in four of the Member States that joined the EU in 2004, namely Hungary, Latvia, Lithuania, and Slovakia, where the contribution of value added from telecommunication services to the non-financial services total was more than double the EU-25 average. Portugal and Luxembourg also reported shares that were notably higher than the EU-25 average (respectively 1.6 and 1.5 times as high). The lowest value added specialisation ratio was observed in Slovenia where telecommunications services value added represented 4.3 % of the non-financial services total, less than three quarters (70.7 %) of the EU-25 average share.

Annual short-term statistics are available for the index of turnover for telecommunication services for the years 2000 to 2004. After a fast pace of development in 2001 (growth of 11.2 % compared with the previous year), EU-25 turnover rose at a slower pace during the following years, with turnover growth of 4.8 % in 2002 and 4.9 % in 2003, accelerating to 5.4 % in 2004.

⁽¹⁷⁾ Belgium, France and Cyprus, 2001; Denmark, 2000; the Czech Republic, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

Table 23.12

Telecommunications (NACE Group 64.2)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Non-financial services value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Non-financial services employment specialisation (EU-25=100) (4)
1	United Kingdom (19.9)	Slovakia (221.8)	United Kingdom (21.0)	Slovakia (200.8)
2	Germany (17.1)	Lithuania (212.4)	Germany (17.0)	Finland (175.6)
3	France (13.1)	Latvia (208.3)	France (14.2)	Latvia (126.3)

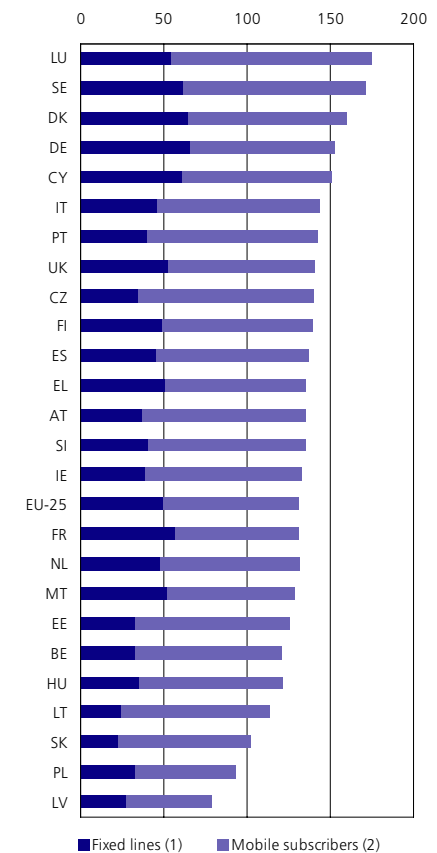
(1) Belgium, France and Cyprus, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

(2) Belgium, the Czech Republic, Denmark, Estonia, Greece, France, Ireland, Cyprus, Malta, the Netherlands and Poland, not available.

(3) France and Cyprus, 2001; Denmark, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

(4) France, 2001; Denmark, Estonia, Greece, Ireland, Cyprus, Malta, the Netherlands and Poland, not available. Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

As regards access to networks, there were in the EU-25 on average 50 fixed telephone lines and 81 mobile subscriptions per 100 inhabitants – see Figure 23.5. Among the Member States, Germany had the highest density of fixed lines, as the average number of lines per 100 inhabitants reached 66 in 2004, followed by Denmark, Sweden and Cyprus where the average was above 60. Slovakia, Lithuania and Latvia had less than 30 fixed lines per 100 inhabitants, the lowest average among the EU-25 Member States. In all the Member States, the number of mobile subscriptions exceeded the number of fixed lines in 2004. In Luxembourg, the average number of mobile subscriptions per 100 inhabitants reached 120 in 2004. At the other end of the scale, the lowest rate was recorded in Latvia (52 per 100 inhabitants), while Poland, France, Malta and Slovakia also remained below the EU-25 average, with less than 80 mobile subscriptions per 100 inhabitants. Note that the number of mobile subscriptions needs to be interpreted with some care, as it overstates, to some degree, the true use of mobile telephony. Indeed, it is relatively common for consumers to switch between various operators (notably in the case of pre-paid offers), without actually closing previous accounts. The high number of subscriptions in Luxembourg may also in part be due to many (of the large number of) cross-border commuters having a subscription in Luxembourg to avoid roaming charges. Looking at the evolution of fixed line telephony, the number of lines generally rose between 1990 and 2000 in the majority of the EU-15 Member States (no data available for the Member States that joined the EU in 2004) – see Table 23.13. However, during the period 2000 to 2004 there was a reduction in the number of fixed lines in a number of Member States, which may be a sign of the combination of market saturation and a result of the substitution of fixed line

Figure 23.5
Access to networks per 100 inhabitants, 2004

(1) EU-25, Italy, Luxembourg and Finland, 2001; the United Kingdom, estimate, 2003.

(2) EU-25, Italy, Latvia, Luxembourg, the Netherlands, Finland and the United Kingdom, 2003.

Source: Eurostat, Industry, trade and services, Information society statistics, Telecommunication services

Table 23.13
Number of fixed and mobile telephone lines (millions)

	Fixed			Mobile		
	1990	2000	2004 (1)	1990	2000	2004 (2)
BE	3.9	3.9	3.4	0.0	5.2	9.1
CZ	:	3.9	3.4	0.0	4.3	10.8
DK	2.9	3.8	3.5	0.1	3.4	5.1
DE	32.0	50.2	54.6	0.3	48.2	71.3
EE	:	0.5	0.4	0.0	0.6	1.3
EL	3.9	5.7	5.6	0.0	5.9	9.3
ES	12.6	17.5	18.9	0.1	24.3	38.6
FR	28.1	34.0	33.9	0.3	29.7	44.6
IE	1.0	1.6	1.6	0.0	2.4	3.8
IT	22.4	27.2	26.6	0.3	42.2	55.9
CY	:	0.4	0.4	0.0	0.2	0.7
LV	:	0.7	0.6	:	0.4	1.2
LT	:	1.2	0.8	:	0.5	3.1
LU	0.2	0.3	0.2	0.0	0.3	0.5
HU	:	3.8	3.6	0.0	3.1	8.7
MT	:	0.2	0.2	0.0	0.1	0.3
NL	6.9	9.9	7.9	0.1	10.8	13.5
AT	3.2	3.8	3.0	0.1	6.1	8.0
PL	:	10.9	12.5	0.0	6.7	23.1
PT	2.4	4.3	4.2	0.0	6.7	10.6
SI	:	0.8	0.8	0.0	1.1	1.9
SK	:	1.7	1.3	0.0	1.1	4.3
FI	2.7	2.8	2.6	0.3	3.7	4.7
SE	5.9	5.8	5.6	0.5	6.4	9.8
UK	25.4	31.3	30.8	1.1	40.0	53.0

(1) Italy, Luxembourg and Finland, 2003; the United Kingdom, estimated value, 2003.

(2) Italy, Latvia, Luxembourg, the Netherlands, Finland and the United Kingdom, 2003.

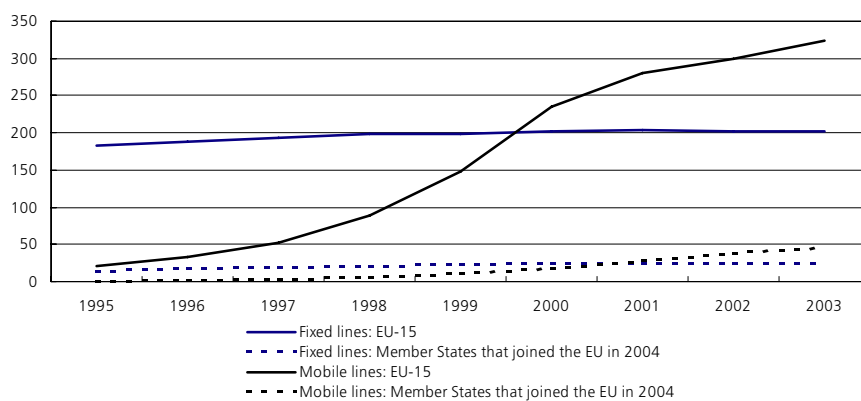
Source: Eurostat, Industry, trade and services, Information society statistics, Telecommunication services

telephony by mobile subscriptions. Indeed, the Netherlands, Austria, Italy, Belgium and the United Kingdom all reported that at least 0.5 million fixed lines were lost during the period 2000 to 2004; on the other hand, the number of fixed lines continued to grow in Germany and Spain. There was also a reduction in the number of fixed lines in a majority of the Member States that joined the EU in 2004 (subject to data availability), with the exception of Poland.

Turning to mobile phones, the number of subscriptions developed at a very rapid pace between 1990 and 2004. The total number of mobile telephone subscriptions was at least 17 times as high in 2004 compared with 1990 in all the Member States⁽¹⁸⁾. Sweden and Finland, which accounted for the highest average number of subscriptions to mobile telephone services at the beginning of the 1990s, showed the slowest expansion between 1990 and 2004. On the other hand, the Czech Republic, Slovenia and Portugal recorded enormous increases in percentage terms, all stating from a very low level in 1990. Note that between 2000 and 2004, the number of mobile telephone subscriptions grew among all the Member States, but at a slower pace than during the decade from 1990 to 2000, as access rates were already above 50 subscriptions per 100 inhabitants in all the EU-15 Member States and Slovenia by 2000.

⁽¹⁸⁾ Latvia and Lithuania, not available.

Figure 23.6
Evolution of the number of telephone lines (millions)



Source: Eurostat, Industry, trade and services, Information society statistics, Telecommunication services

Table 23.14
Duration of outgoing telephone calls,
2003 (seconds per fixed line per day)

	National calls (1)	International calls (2)
BE	717	82
CZ	696	43
DK	838	28
DE	980	27
EE	398	30
EL	598	40
ES	903	34
FR	458	15
IE	:	169
IT	1 875	30
CY	626	132
LV	340	15
LT	271	14
LU	658	249
HU	502	7
MT	:	25
NL	:	52
AT	413	:
PL	472	27
PT	811	20
SI	422	41
SK	231	27
FI	663	15
SE	819	40
UK	675	41

(1) France, 2002; Italy and the United Kingdom, 2001; Poland, 2000; Luxembourg, 1999.

(2) Latvia, 2002; Italy, the Netherlands, Austria and the United Kingdom, 2001; Ireland, 2000; France, 1999.

Source: Eurostat, Industry, trade and services, Information society statistics, Telecommunication services

In 2003, most telephone calls were made to national correspondents, with an average duration of more than 500 seconds per day per line in the majority of Member States – see Table 23.14. Slovakia, with an average of 231 seconds per day per line, recorded the lowest average duration. The Baltic States were the only other Member States where the average duration of calls did not exceed 400 seconds (or less than 7 minutes) per day per line. This contrasted with calls in Spain and Germany that averaged over 900 seconds (or more than 15 minutes) per day per line and 1 875 seconds (or more than 31 minutes) in Italy. Note that Internet access has become an important factor in national calls, with connections to service providers through a modem.

Table 23.15
Telecommunications (NACE Group 64.2)

Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Luxembourg (600.0)	Luxembourg (70.3)	Luxembourg (853.8)	Cyprus (64.7)
2	Italy (193.3)	Belgium (60.0)	Latvia (491.1)	Luxembourg (58.2)
3	Spain (190.3)	United Kingdom (57.4)	Lithuania (431.7)	Latvia (47.6)

(1) Belgium, France and Cyprus, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Malta, the Netherlands and Poland, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Concerning international calls, which include both intra and extra EU-25 calls, these generally exceeded 20 seconds per day per fixed line in 2003. Smaller Member States reported the highest duration for international calls. Indeed, the highest average duration of international calls was recorded in Luxembourg (249 seconds per day per line), followed by Ireland (169) and Cyprus (132 seconds). Among the larger Member States the average duration of international calls in the United Kingdom was over 40 seconds, while France recorded a very low level of international calls (15 seconds per day per line).

PRODUCTIVITY AND PROFITABILITY

The productivity of the EU-25's telecommunication services, as measured by apparent labour productivity, was particularly high compared to the average for non-financial services. Indeed, with an average of EUR 129 700 of value added per person employed in the EU-25 in 2002, the telecommunications sector accounted for the second highest apparent labour productivity among the NACE groups for non-financial services, three times as high as the average for the EU-25's non-financial services sector. In all the Member States⁽¹⁹⁾, apparent labour productivity for telecommunication services was at least twice as high as the non-financial services average. In Luxembourg, apparent labour productivity was highest at EUR 600 000 per person employed, about 11 times as high as the national non-financial services average. Large productivity differences were also registered in Hungary and Portugal where the level of productivity for telecommunication services was between seven and eight times as high as the average for non-financial services.

(19) Belgium and France, 2001; the Czech Republic, Denmark, Estonia, Greece, Ireland, Cyprus, Malta, the Netherlands and Poland, not available.

Average personnel costs were EUR 49 600 per employee in the EU-25 in 2002, some EUR 23 700 higher than the non-financial services average. In most of the Member States, average personnel costs in telecommunication services were two or three times as high as for non-financial services as a whole.

Despite high average personnel costs, the EU-25's wage adjusted labour productivity in telecommunications services was 216.5 %, almost twice as high as the non-financial services average. Among the Member States with available data, wage adjusted labour productivity ratios were between 1.3 and 3.3 times as high as the non-financial services average, with Luxembourg above this range with a ratio 5.5 times as high as the non-financial services average.

23.3 SOFTWARE AND COMPUTING SERVICES

Computer and related activities (NACE Division 72) covers software and computing services, which include consultancy activities for hardware or software, data processing activities, database activities and the maintenance and repair of office and information technology machinery. Note that although this subchapter includes the repair of computers it does not cover their actual manufacture (NACE Class 30.02) nor their wholesaling, retailing or renting (NACE Classes 51.84, 52.48 and 71.33).

Along with telecommunications this sector is at the forefront of the information society, providing software and services that allow businesses and consumers to take advantage of technological progress. Computer and related activities were one of the fastest growing activities within the EU-25 economy at the end of the 1990's, until stock market values crashed in 2001. Enterprises delivering software and computer services support clients in a broad range of areas, in almost all economic activities. It is quite common for enterprises to out-source their requirements for hardware and software to specialist providers.

In terms of recent legislation in this area, the Parliament rejected the Council's common position on the patentability of computer-implemented inventions (the so-called 'software patents directive'). The proposal sought to allow patents to be applied to software, rather than to technical innovation (of which software is only one part).

STRUCTURAL PROFILE

The EU-25's computer and related activities (NACE Division 72) generated EUR 148.0 billion of value added in 2002, therefore contributing 5.7 % to non-financial services (NACE Sections G to I and K) value added. The computer and related activities sector employed 2.5 million persons in the EU-25, equivalent to 3.6 % of the non-financial services workforce.

The United Kingdom dominated this sector, with EUR 43.8 billion of value added (29.6 % of the EU-25 total), well ahead of the next largest Member State, Germany (EUR 28.7 billion or 19.4 %). Together these two Member States contributed almost half of the EU-25's value added in 2002. France (12.9 %) and Italy (10.8 %) were the next largest contributors. Note that Spain accounted for a relatively small share of activity within the computer and related activities sector, with EUR 7.1 billion of value added (4.8 % of the

Table 23.16

World's top software and IT services enterprises/groups, 2004

	Software and IT services revenue (EUR million)	Corporate revenue (EUR million)	Number of employees (units)
IBM	45 780	71 654	319 000
Microsoft	25 878	25 878	54 468
EDS	16 078	16 078	120 000
Lockheed Martin	12 280	25 584	130 000
Computer Sciences	11 131	11 131	90 000
Accenture	10 770	10 770	83 000
Hewlett-Packard	8 172	45 492	142 000
Oracle	7 617	7 617	41 600
Hitachi	7 513	17 553	326 344
SAP	7 058	7 114	30 251

Source: Software Magazine's Annual Software 500, Wiesner Publishing, Framingham, Mass., 2004

Table 23.17

Computer and related activities (NACE Division 72)

Structural profile: ranking of the top 3 Member States, 2002

Rank	Non-financial services		Non-financial services	
	Share of EU-25 value added (%) (1)	value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	employment specialisation (EU-25=100) (4)
1	United Kingdom (29.6)	Ireland (157.3)	United Kingdom (22.7)	Sweden (203.1)
2	Germany (19.4)	Sweden (137.9)	Germany (15.2)	Finland (163.0)
3	France (12.9)	United Kingdom (132.1)	Italy (14.5)	Italy (129.4)

(1) Belgium and the Czech Republic, 2001; Greece, not available.

(2) Belgium, the Czech Republic, Greece, France and Cyprus, not available.

(3) France, 2001; Greece, not available.

(4) France, 2001; Greece and Cyprus, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

EU-25 total), slightly less than in the Netherlands (EUR 7.5 billion, 5.1 %).

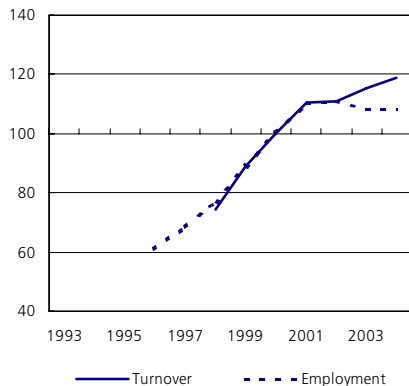
In terms of employment, the United Kingdom and Germany again reported the highest proportions of the EU-25 total, 22.7 % and 15.2 % respectively, which were lower than their corresponding shares of EU-25 value added. The opposite was true for Italy and France.

The United Kingdom was relatively specialised within computer and related activities in so far as the contribution from this activity to the national non-financial services total was 1.3 times as high as the EU-25 average. Ireland stood out as the Member State with the highest relative specialisation ratio in this sector according to this measure ⁽²⁰⁾, as computer and related activities contributed 1.6 times as much to Irish value added within non-financial

services as the EU-25 average. Sweden, Finland and Italy were also relatively specialised in computer and related activities. The lowest levels of specialisation with respect to non-financial services value added were recorded for Lithuania, Estonia, Portugal and Malta, as the value added generated by their computer and related activities sector accounted for less than 50 % of the EU-25's average contribution to the non-financial services total.

⁽²⁰⁾ Belgium, Denmark and France, 2001; the Czech Republic, Greece, Cyprus, Malta, the Netherlands and Poland, not available.

Figure 23.7
Computer and related activities
(NACE Division 72)
Evolution of main indicators,
EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Annualised short-term statistics show that computer and related activities were a very dynamic activity within the EU-25 up until 2001, as witnessed by the rapid growth of the index for turnover during the period 1998 to 2001, when average growth of 14.0 % per annum was registered. This was followed by a dramatic change in 2002, as EU-25 turnover remained almost unchanged (0.3 % growth). There were some signs of a recovery in 2003, as the pace at which turnover grew rose to 4.1 %, although this return to relatively high rates of growth was not reproduced across all of the Member States⁽²¹⁾, as falls in the turnover index were recorded in 2003 for Malta (-16.3 %), Denmark, the Netherlands (both -2.9 %), France (-2.8 %) and Italy (-0.4 %). In 2004 the turnover index for the EU-25 for computer and related activities grew by 3.0 % when compared with the previous year. Among the Member States⁽²²⁾, Estonia (23.2 %), Poland (14.1 %), Slovakia (12.6 %) and Lithuania (11.5 %) all recorded double-digit growth rates in this year.

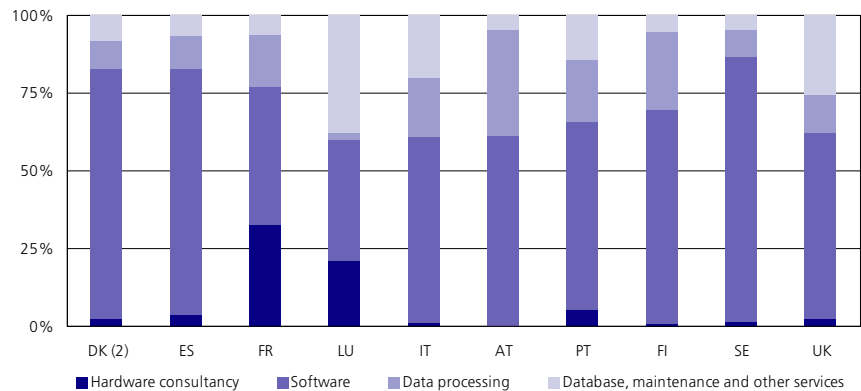
The evolution of the index for employment for the EU-25's computer and related activities was similar to that of the turnover index up to the peak in 2001. The growth rate of 10.2 % in 2001 was by far the highest of any of the NACE divisions that compose the non-financial services sector⁽²³⁾, well ahead of that recorded for other business activities (NACE Division 74), 4.7 %. As with turnover, the index of employment then slowed, with a modest

⁽²¹⁾ Belgium, Germany, Greece, Ireland, Luxembourg, Hungary, Austria and Slovenia, not available.

⁽²²⁾ Belgium, Germany, Greece, Ireland, Luxembourg, Hungary, Slovenia and Finland, not available.

⁽²³⁾ NACE Divisions 70, 71 and 73 are not covered by short-term statistics.

Figure 23.8
Breakdown of turnover in computing services by NACE group,
selected Member States, 2001 (1)

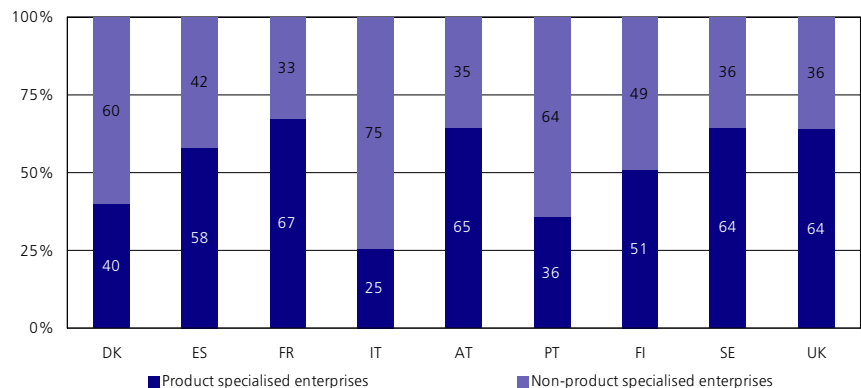


(1) Member States that are not presented, not available.

(2) 2000.

Source: Eurostat, Services (Industry, Construction, Trade and Services), Business services

Figure 23.9
Breakdown of turnover in software service enterprises by specialisation,
selected Member States, 2001 (1)



(1) Member States that are not presented, not available.

Source: Eurostat, Services (Industry, Construction, Trade and Services), Business services

0.5 % increase in 2002. However, in 2003, the EU-25 index of employment for computer and related activities fell by 2.2 %, while in 2004, the level remained unchanged.

An analysis of activities and product specialisation

In parallel to the collection of the main structural business statistics data provided by nearly all Member States, a number of other specific data sets are compiled on a voluntary basis by a subset of Member States, including data on business services for the 2001 reference year. From this data set information is available at the NACE group level for computer and related activities, which is more detailed than the regular structural business statistics data. Furthermore, an analysis of the turnover by product is available – see Figure 23.8. The results of this special data compilation show

that software consultancy and supply enterprises (NACE Group 72.2) represented more than half (51.3 %) of the 161 000 enterprises in the computer and related activities sector in the surveyed Member States⁽²⁴⁾. With EUR 123.8 billion of turnover, the enterprises in this subsector generated more than 60 % of the total for computer and related activities. While hardware consultancy (NACE Group 72.1) averaged around 8 % of total turnover for the Member States that provided data, its share rose to close to one third of total turnover in France, where it was the second largest activity after software consultancy and supply.

⁽²⁴⁾ EU-15 excluding Belgium, Germany, Greece, Ireland and the Netherlands.

Table 23.18

**Computer and related activities (NACE Division 72)
Labour force characteristics, 2004**

	Male		Full-time		Breakdown by age (% share of total)		
	Proportion of those employed (%)	Index (services=100)	Proportion of those employed (%)	Index (services=100)	< 25 years (1)	25-49 years	50+ years (2)
EU-25	75.9	136.6	90.9	113.2	8.0	80.3	11.7
BE	81.2	137.9	96.1	122.4	6.2	86.8	7.1
CZ	80.0	149.4	97.0	103.0	10.6	75.9	13.5
DK	78.5	132.0	90.6	122.1	8.0	73.5	23.5
DE	75.2	144.5	87.7	119.2	8.5	78.3	13.2
EE (3)	:	:	100.0	105.6	:	:	:
EL	71.4	117.7	94.7	98.6	16.4	79.6	:
ES	73.5	130.8	95.6	106.2	10.3	84.6	5.1
FR	70.7	125.6	93.6	110.4	7.7	82.4	9.9
IE	71.9	132.9	95.3	120.8	8.1	87.0	:
IT	74.2	124.9	92.7	110.0	7.3	83.2	9.5
CY	63.2	119.3	100.0	109.2	:	85.7	:
LV	54.7	107.8	59.9	66.1	:	66.1	:
LT	:	:	100.0	106.7	:	83.0	:
LU	80.9	136.4	93.0	109.8	:	87.8	:
HU	74.1	138.0	96.6	102.0	8.9	78.6	12.5
MT	:	:	:	:	:	:	:
NL	81.7	141.2	79.0	143.7	7.5	81.4	11.1
AT	86.0	171.0	87.1	117.1	11.5	81.2	9.1
PL	79.2	148.0	97.3	108.3	:	83.3	10.7
PT	74.4	133.6	95.9	103.0	:	78.5	:
SI	71.5	138.1	97.2	106.1	13.7	88.4	:
SK	78.4	153.9	100.0	103.5	18.0	80.3	:
FI	75.4	140.5	90.8	109.2	8.0	76.5	15.5
SE	73.4	123.9	90.0	118.1	3.9	77.9	18.2
UK	78.7	141.3	90.6	127.7	7.7	77.9	14.4

(1) Denmark, Slovenia and Slovakia, 2003.

(2) Austria, 2003.

(3) 2002.

Source: Eurostat, Labour market, Total employment - LFS series

This same data set provides information on product specialisation – see Figure 23.9. An enterprise was considered to be product-specialised if more than 75 % of its total turnover came from its respective economic activity at the NACE group level of detail. For software consultancy and supply (NACE Group 72.2), six of the nine Member States for which data are available ⁽²⁵⁾ reported that the majority of their turnover among software enterprises came from product specialised enterprises. Only in Denmark, Italy and Portugal was turnover from non-product specialised enterprises higher than that from product-specialised enterprises.

⁽²⁵⁾ EU-15 excluding Belgium, Germany, Greece, Ireland, Luxembourg and the Netherlands.

EMPLOYMENT CHARACTERISTICS

The workforce for computer and related activities was dominated by male employment, as men accounted for more than three quarters (75.9 %) of the total number of persons employed in the EU-25 in 2004. This share was considerably higher than the proportion of men working within the services sector as a whole (NACE Sections G to K), which stood at 55.6 %, and also higher than the proportion of men working in the manufacturing sector (NACE Section D), where 70.3 % of the workforce were men. However, computer and related activities had only the fourth highest proportion of men among all services NACE divisions, behind motor trades (NACE Division 50), water transport (NACE Division 61) and land transport (NACE Division 60).

Among the Member States ⁽²⁶⁾, the proportion of men working in computer and related activities was systematically higher than the services average. Moreover, in all of the Member States except Latvia (54.7 %), male employment accounted for more than two thirds of the total workforce. The highest difference between the proportion of men working in computer and related activities and the proportion working in the services sector as a whole was recorded in Austria, where the gap reached 35.5 percentage points.

⁽²⁶⁾ Estonia, Lithuania and Malta, not available.

Table 23.19

Computer and related activities (NACE Division 72)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002 (1)

Rank	Apparent labour productivity (EUR thousand)	Average personnel costs (EUR thousand)	Wage adjusted labour productivity (%)	Gross operating rate (%)
1	Ireland (117.9)	Denmark (57.8)	Ireland (243.8)	Latvia (31.4)
2	United Kingdom (77.4)	Belgium (58.4)	Latvia (201.3)	Malta (29.6)
3	Germany (76.0)	Germany (56.8)	Slovakia (175.3)	Ireland (25.2)

(1) Belgium, the Czech Republic and France, 2001; Greece, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Just over nine out of ten persons (90.9 %) working in the EU-25's computer and related activities worked on a full-time basis in 2004, some 10.6 percentage points higher than the average for the services sector. As such, computer and related activities recorded the third highest proportion of full-time employment among the services NACE divisions, behind water and land transport. Among the Member States⁽²⁷⁾, Germany (87.7 %), the Netherlands (79.9 %) and Austria (87.1 %) all reported less than 90 % of their computer and related activities workforce in full-time employment in 2004, although these shares were still higher than national averages for the whole of the services sector. On the other hand, full-time work in computer and related activities accounted for only 59.9 % of employment in Latvia, which was much lower than the services average, some 30 percentage points less.

Looking at the breakdown of the computer and related activities workforce by age class, 8.0 % of those employed in the EU-25 in this activity were aged between 15 and 24 in 2004, while the overwhelming majority of the workforce (80.3 %) was aged between 25 and 49, and the remaining 11.7 % were aged 50 or more. The proportion of persons aged between 25 and 49 in this sector was the highest of all business economy (NACE Sections C to K) NACE divisions⁽²⁸⁾, while the proportion aged 50 or over was the smallest⁽²⁹⁾.

⁽²⁷⁾ Estonia and Malta, not available.

⁽²⁸⁾ NACE Divisions 11 to 13 and 16, not available.

⁽²⁹⁾ NACE Divisions 10 to 14, 16, 23, 30, 37, 61, 62 and 71, not available.

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity was EUR 59 500 per person employed in the EU-25's computer and related activities in 2002, a relatively high level compared with the average for non-financial services that was some EUR 21 700 per person employed lower. However, computer and related activities had by no means the highest level of apparent labour productivity among NACE divisions within the non-financial services sector, as it was surpassed by several transport, communications and business services activities. Among the Member States, apparent labour productivity was higher for computer and related activities than for non-financial services in all of the Member States⁽³⁰⁾ except Luxembourg.

Enterprises in the EU-25's computer and related activities faced relatively high average personnel costs per employee (EUR 49 100) compared with the non-financial services average (EUR 25 900) in 2002. The difference may, at least in part, be explained by the relatively high proportion of persons employed within computer and related activities with a higher level of education. Among the Member States⁽³¹⁾, average personnel costs per employee in computer and related activities were at least 1.2 times as high as the non-financial services average, rising to 2.4 times as high in Latvia.

⁽³⁰⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

⁽³¹⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

Wage adjusted labour productivity, which can be calculated as the ratio of apparent labour productivity to average personnel costs, showed that EU-25 enterprises in computer and related activities generated enough value added per person employed to cover average personnel costs by 121.2 % in 2002. This proportion was almost 25 percentage points lower than the non-financial services average, with only Ireland registering a higher wage adjusted labour productivity ratio for computer and related activities, and Slovenia recording a similar level to its non-financial services average⁽³²⁾.

The gross operating rate showed that in 2002 the gross operating surplus generated by enterprises in the EU-25's computer and related activities was equivalent to 15.0 % of turnover, a proportion that was 3.8 percentage points higher than the equivalent ratio for the whole of non-financial services. However, among the Member States⁽³³⁾, the Nordic Member States, Estonia, Spain, France, Luxembourg and the United Kingdom all reported higher gross operating rates for non-financial services as a whole than for computer and related activities.

⁽³²⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

⁽³³⁾ Belgium, the Czech Republic and France, 2001; Greece and Cyprus, not available.

23.4 REPRODUCTION OF COMPUTER MEDIA

The reproduction of computer media is part of the NACE activity that covers the reproduction services of recorded media (NACE Group 22.3). The information presented in this subchapter relates solely to reproduction services for software (NACE Class 22.33), which includes the reproduction from master copies of software and data on discs and tapes. Note that reproduction services for sound and video recording (NACE Classes 22.31 and 22.32) are both covered in the following Subchapter 23.5 that deals with audio-visual activities.

STRUCTURAL PROFILE

Value added generated by the reproduction of recorded media sector (NACE Group 22.3) in the EU-25 amounted to EUR 4.6 billion in 2002. Based on available data, it is estimated that the reproduction of computer media accounted for around EUR 2.5 billion of value added in 2002 in the EU ⁽³⁴⁾. This activity was very concentrated, as some EUR 2.0 billion of this total was created in Ireland in 1999, while value added generated in Austria and Germany in this activity and the reproduction of video recording (NACE Class 22.32) together amounted to EUR 200 million and EUR 164 million in 2002. Three other Member States reported some activity within this relatively small sector of the industrial economy, as value added for the reproduction of recorded computer media in 2002 was EUR 95.4 million in the United Kingdom, EUR 25.8 million in France and EUR 15.8 million in Spain. Note that among the Member States that joined the EU in 2004, only Hungary and Poland recorded value added above EUR 1.5 million for this sector.

⁽³⁴⁾ Belgium, Portugal and Finland, 2001; Latvia and Slovakia, 2000; Ireland, 1999; Germany and Austria, including the reproduction of video recording (NACE Class 22.32); Greece, not available.

The number of persons employed in the reproduction of recorded media sector (NACE Group 22.3) in the EU-25 was 43 100 in 2002. Based on available data, it is estimated that out of this, around 14 500 persons were employed in the reproduction of computer media sector in the EU ⁽³⁵⁾ in 2002, of which around one third were working in Ireland (5 591, 1999). The next largest workforces in this sector were to be found in the United Kingdom (1 472 persons), France (778 persons employed) and the Netherlands (477 persons employed); while in Germany and Austria the combined workforce for the reproduction of recorded computer media and the reproduction of video recording was 3 367 and 1 134 respectively in 2002.

⁽³⁵⁾ Belgium, Portugal and Finland, 2001; Latvia and Slovakia, 2000; Ireland, 1999; Germany and Austria, including the reproduction of video recording (NACE Class 22.32); Greece, not available.

23.5 AUDIO-VISUAL ACTIVITIES

This chapter looks at several activities linked to audio-visual products. The film and video activity is covered by NACE Group 92.1, which includes cinematographic and audio-visual production (including films and TV fiction, advertising and documentaries) and production services (for example, special effects or dubbing), as well as distribution activities. Activities relating to the reproduction of sound and video recordings (NACE Classes 22.31 and 22.32) are also covered within this subchapter, while some information on the demand for the output of these activities is provided as regards the retail trade and renting of videos and DVDs.

The television sector consists of three major activities: the production of programmes, the compilation of schedules for those programmes, and their transmission to the final consumer. The first two are included in NACE Group 92.2 and form part of this subchapter, while the transmission of signals via hertzian relays, satellite or cable networks is covered by NACE Group 64.2, which concerns telecommunication services – see Subchapter 23.2. Radio activities are also covered by NACE Group 92.2 and are addressed in this subchapter.

The music recording activity includes activities that range from the selection, management and production of artists, to the manufacturing, marketing and distribution of recorded media in the form of compact discs, vinyl and cassettes. Two NACE classes cover this activity, with NACE Class 22.14 concerned with the publishing side and NACE Class 22.31 with the reproduction side.

European Commission Directive 98/84/EC aims to provide a minimum level of legal protection within the EU-25 as regards electronic pay services (pay TV, radio and Internet services) against piracy. A report from the Commission to the Council, the European Parliament and the European Economic and Social Committee – COM(2003) 198 final of 24 April 2003 - on the implementation of this directive since its

adoption in November 1998 through to the end of 2002 noted the problems associated with pirating electronic pay services. In a wider context, one of the major challenges to piracy on the Internet is with respect to web-sites and file servers that are set-up to exchange music (often through compressed audio files such as MP3s), software, videos or other forms of information.

Note that no European structural business statistics or short-term statistics are available for the film, video, radio and television activities (NACE Groups 92.1 and 92.2) and that the analysis of these activities is carried out using data from alternative sources.

Table 23.20

Main indicators of the cinema industry, 2003

	National film productions (units) (1)	Cinema sites (units) (2)	Multiplex sites (units) (3)	Total number of screens (units)	Total number of seats (thousands) (4)	Total number of admissions (millions) (5)	Total revenue from ticket sales (EUR million) (6)	Average ticket price (EUR) (7)	Market share of US films (%) (8)
BE	15	128	22	525	117.0	22.7	131.8	5.80	74.1
CZ	16	:	13	757	:	12.1	33.4	2.76	:
DK	24	166	6	379	57.5	12.3	97.7	7.95	65.1
DE	80	1 831	129	4 868	877.8	149.0	849.8	5.70	76.8
EE	3	:	1	81	:	1.3	5.1	4.01	:
EL	25	306	8	450	:	11.0	73.6	5.60	:
ES	110	1 196	188	4 274	1 468.7	137.5	639.4	4.65	67.2
FR	213	2 130	135	5 289	1 074.2	174.1	1 000.3	5.74	53.6
IE	8	69	10	329	58.7	17.4	97.5	5.59	84.4
IT	117	2 236	65	3 566	:	98.0	549.1	5.60	:
CY	4	:	:	47	:	1.0	6.5	6.31	:
LV	4	:	1	110	:	1.1	3.3	2.90	:
LT	5	:	2	83	:	1.4	3.9	2.79	:
LU	12	12	1	26	5.1	1.3	7.8	6.20	76.4
HU	21	:	12	589	:	13.5	38.9	2.87	:
MT	:	:	1	41	:	1.1	:	:	:
NL	29	174	10	603	108.6	24.9	163.2	6.56	75.9
AT	20	176	22	550	101.8	17.7	115.8	6.53	:
PL	26	:	25	877	:	25.3	92.5	3.66	:
PT	15	165	12	468	130.0	18.7	73.6	3.93	:
SI	6	:	2	100	:	3.0	10.7	3.61	:
SK	8	:	2	290	:	3.0	6.2	2.10	:
FI	11	223	4	339	58.4	7.6	56.0	7.34	67.8
SE	27	817	17	1 170	195.7	18.2	150.8	8.30	71.0
UK	143	776	185	3 433	745.9	167.3	1 052.8	6.29	77.0
BG	3	:	2	208	:	3.0	6.1	2.02	:
HR	3	:	1	142	:	2.3	6.1	2.59	:
RO	17	:	1	213	:	4.5	5.5	1.20	:
TR	19	:	11	985	:	22.3	67.9	3.04	:

(1) Includes co-productions (as such the EU total - 764 films in 2004 - cannot be made by summing the data for the Member States); Hungary, 2002; Ireland, Cyprus and Turkey, 2001. (2) Greece, 2002; Ireland, 2000. (3) As of 1 January 2004. (4) Finland, 2001; Ireland and the United Kingdom, 2000; Portugal, estimate for 2000. (5) Greece, estimate. (6) Romania, net box office; Poland, estimate for 2002; Greece, estimate for 2001. (7) Luxembourg, estimate; Greece, estimate for 2001. (8) Italy, estimate; the United Kingdom, 2000.

Source: MEDIA Salles, European cinema yearbook, 2004 edition

STRUCTURAL PROFILE

Films

Information provided by EAO ⁽³⁶⁾ suggests that 764 films were produced in the EU-25 in 2004, some 2 % more than the year before. Within the EU-25 films market, a gap has opened-up between the five major producers of films and the remaining Member States. Indeed, according to MEDIA Salles ⁽³⁷⁾, France was the largest producing Member State in the EU-25 with 213 productions in 2003 (including co-productions), followed by the United Kingdom (143 films), Italy (117 films), Spain (110 films) and Germany (80 films), while no other Member State ⁽³⁸⁾ produced more than 30 films in 2003 – see Table 23.20.

⁽³⁶⁾ EAO (the European Audiovisual Observatory), more information at: <http://www.obs.coe.int>, see under 'World film market trend - Focus 2005'.

⁽³⁷⁾ More information at: <http://www.mediasalles.it>, see the European Cinema Yearbook 2004.

⁽³⁸⁾ Malta, not available.

The EU-25 cinema distribution activity enjoyed strong growth during the 1990s following the opening of a large number of multiplex sites. According to MEDIA Salles, there were at least 10 400 cinema theatre sites in the EU-25 in 2003, of which 873 were multiplexes (see Table 23.20). The number of admissions to cinemas in the EU-25 stood at 940.5 million in 2003, 5.9 % less than its recent peak in 2002.

EU-25 box office receipts were equal to EUR 5.3 billion in 2003. American productions dominated the European film marketplace, accounting for at least 65 % of ticket sales in each of the Member States with data available for 2003, except France, where the market share of films from the United States stood at 53.6 %.

Video

The video market (video tapes and DVDs) represents an important source of revenue for film producers, often accounting for more than half of a film's overall revenue, sometimes compensating film producers for mediocre results in cinemas.

Based on available data for 17 of the Member States ⁽³⁹⁾, the reproduction of video recording (NACE Class 22.32) had value added in 2002 that was probably at least EUR 416.3 million, while there were in excess of 6 600 persons employed. The highest level of value added was recorded in the United Kingdom, at EUR 169.6 million in 2002, which was above the corresponding level for Italy (EUR 110.8 million), France (EUR 56.7 million) or Spain (EUR 23.9 million); note that no data are available for this NACE class for Germany.

⁽³⁹⁾ Belgium and Latvia, 2001; Denmark, Germany, Estonia, Greece, Ireland, Luxembourg, Malta and Slovakia, not available.

Table 23.21
Evolution of the audiovisual market in terms of net revenues, EU-15 (EUR million)

	1998	1999	2000	2001	2002
Total audiovisual revenues	76 546	84 111	92 365	98 362	98 569
Broadcasters net revenues:	50 213	56 961	63 269	66 259	65 386
Public broadcasters (radio and television)	23 353	25 689	26 896	28 549	27 769
Private radio stations financed by advertising (estimated)	3 302	3 302	3 893	3 898	3 935
Private television channels financed by advertising	14 548	16 640	18 713	18 187	17 349
Home shopping companies	727	1 034	1 297	1 518	1 730
Film Pay-TV companies	2 989	3 320	3 569	3 784	3 915
TV packages	3 671	4 956	6 485	7 410	7 722
Thematic channels	1 623	2 019	2 416	2 912	2 967

Source: EAO, Yearbook 2004 - Film, Television, Video and Multimedia in Europe, 2004 Edition, <http://www.obs.coe.int>

According to IVF ⁽⁴⁰⁾, retail video sales in Europe were valued at EUR 10.0 billion in 2003, while rental sales of video amounted to EUR 2.5 billion. Since the DVD format was launched in 1998, there has been a rapid increase in the size of the market, in particular that for retail sales. The retail sales video market (VHS and DVD combined) represented 67 % of the total spending (rental and sales combined) in 1998, a proportion that had risen to 80 % by 2003.

Television and radio

In 2002, broadcasters' turnover amounted to EUR 65.4 billion in the EU-15, of which 42.5 % came from public broadcasters (of both radio and television), according to the EAO ⁽⁴¹⁾ – see Table 23.21. No distinction between public radio and television turnover is available, given the nature of the different enterprises across the Member States, for instance the BBC (UK), ARD (DE) and RAI (IT) all provide both television and radio services, while France Television (FR), ZDF (DE) and SVT (SE) are specialised public broadcasters for television only. Private television channels accounted for 26.5 % of broadcasters' turnover in 2002 in the EU-15. Television broadcasters can count on three main types of revenues: public funding through annual television licence fees and/or subsidies (for public operators); revenues from advertising or sponsorship (for public and commercial operators); and direct receipts from viewers (in the case of pay-TV operators). The largest television sectors in the EU-25 were in the United Kingdom (EUR 17.3 billion of turnover), Germany (EUR 13.6 billion), France (EUR 10.5 billion), Italy (EUR 7.6 billion), Spain (EUR 4.8 billion), the Netherlands and Luxembourg (together EUR 2.1 billion), the only

⁽⁴⁰⁾ IVF (the International Video Federation), more information at: <http://www.ivf-video.org>; EU-25 excluding Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia and Slovakia and including Iceland, Norway, Switzerland, Croatia and Russia.

⁽⁴¹⁾ EAO (European Audiovisual Observatory), more information at: <http://www.obs.coe.int>, see 'Financial situation of the television companies in the European Union (1994-2004)'.

Member States where television enterprises totalised more than EUR 2 billion of turnover. Note that in Cyprus, Spain and Luxembourg, no TV licence fee is levied, as well as in Greece (replaced by a tax on the electricity bill), Portugal (abolished in 1989), the Netherlands (abolished in 2000) and the Flemish community in Belgium (abolished in 2002).

The process of deregulation initiated for radio at the start of the 1980s resulted in rapid growth in the number of radio stations up until 1994 when there were approximately 7 600 radio stations in the EU-15. From 1995 to 2000, the number of radio stations declined by more than 2 000 compared with 1994. It should be noted that the vast majority of radio stations have only regional or local coverage. Turnover from private radio stations financed by advertising was estimated to account for a 6.0 % share of the total turnover of broadcasters (television and radio) in 2002.

Music recording

The music recording sector is dominated by a small number of multinational distribution companies, often referred to as the 'majors', including Universal, Sony Music, EMI, Warner and BMG. According to IFPI ⁽⁴²⁾, Universal had a 23.5 % share of the world music market and a 25.6 % share of the European market ⁽⁴³⁾ in 2003 (all audio and music video formats).

Structural business statistics for the publishing of sound recording activity (NACE Class 22.14) shows that value added generated in the EU was at least EUR 1.4 billion in 2002, with 18 300 persons employed ⁽⁴⁴⁾. Turning to reproduction of sound recording (NACE Class 22.31), this activity generated at least EUR 1.0 billion of value added in the EU and

⁽⁴²⁾ IFPI (the International Federation of the Phonographic Industries), more information at: <http://www.ifpi.org>.

⁽⁴³⁾ EU-25 excluding Estonia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Slovenia, Slovakia, and including Norway and Switzerland.

⁽⁴⁴⁾ Belgium and Latvia, 2001; Greece and Ireland, not available.

Table 23.22
Sound recording sales, 2004 (million units)

	Total (1)	Singles	CDs	DVDs
BE	18.5	3.5	15.6	1.6
CZ	4.0	0.0	3.3	0.2
DK	10.2	0.2	9.7	0.4
DE	181.3	23.5	146.6	11.5
EE	0.9	0.0	0.8	-
EL	7.6	0.6	6.9	0.3
ES	38.4	1.3	34.0	3.5
FR	126.6	24.3	106.4	9.0
IE	8.6	0.8	7.8	0.5
IT	37.8	1.4	33.1	2.0
CY	:	:	:	:
LV	0.6	0.0	0.3	0.0
LT	:	:	:	:
LU	:	:	:	:
HU	7.6	0.0	5.4	0.2
MT	:	:	:	:
NL	29.9	2.7	23.2	5.3
AT	11.0	1.6	9.7	0.6
PL	12.3	0.1	10.5	0.6
PT	12.6	1.9	9.4	0.8
SI	:	:	:	:
SK	:	:	:	:
FI	9.6	0.4	9.0	0.3
SE	18.1	1.4	16.6	0.8
UK	194.1	31.4	174.6	7.7

(1) Total units are calculated as the total album equivalent in each market (3 singles = 1 album); other audio formats such as DVD audio, super audio CD (SACD) and MiniDisc are included in the total. Source: IFPI, World sales 2005, <http://www.ifpi.org>

employed more than 20 500 persons in 2002 ⁽⁴⁵⁾.

Some 729.7 million sound recordings were sold in the EU ⁽⁴⁶⁾ in 2004 according to IFPI (see Table 23.22). The United Kingdom was the main market with 194.1 million sound recordings sold in 2004, ahead of Germany (181.3 million) and France (126.6 million). The most important development in this market in recent years has undoubtedly been the emergence of digital music. Indeed, according to IFPI, sales of digital music services offered through on-line music stores totalled some 15 million tracks in 2004 in the three largest markets of the United Kingdom, Germany and France. Despite initial concerns from music enterprises over illegal copies and sharing of music, new services such as iTunes have already resulted in a large volume of music being sold on-line, with many other enterprises trying to enter this lucrative market with similar services.

⁽⁴⁵⁾ Belgium, Portugal and Finland, 2001; Denmark, Estonia, Greece, Ireland, Latvia and Malta, not available.

⁽⁴⁶⁾ EU-25 excluding Cyprus, Lithuania, Luxembourg, Malta, Slovenia and Slovakia.

23.6 PUBLISHING AND PRINTING

Publishing can be defined as the act of producing and issuing informative material. Printing involves placing the publishing material on paper or other materials. These activities are covered by NACE Group 22.1 (for publishing) and NACE Group 22.2 (for printing). Note that while the publishing of sound recordings (NACE Class 22.14) was included in the previous Subchapter 23.5, unless otherwise stated the statistics presented in this subchapter also include information on sound recordings, as most of the data presented refers to an aggregate of NACE Groups 22.1 and 22.2, hereafter referred to as the publishing and printing sector. Note also that the third group of NACE Division 22, namely the reproduction of recorded media (NACE Group 22.3) is covered as part of Subchapters 23.4 and 23.5.

Publishing and printing comprises all the stages necessary to transform a piece of creative writing or information into a product available for distribution to the public. The explosion of information and communications technologies (ICTs) has created a wide range of opportunities for this sector and different media to work with. While the Internet was initially seen as a direct competitor to printed matter, many people continue to purchase newspapers, magazines, books and reference materials, while enterprises that traditionally produced these media have often diversified into electronic media too, for example, on-line editions of newspapers or CD-ROMs and DVDs for reference material. There have also been some interesting developments in desktop publishing (DTP) technologies, notably in terms of cost-efficiency, allowing lower and more flexible print-runs and thus expanding the range of specialist titles that are available to the consumer. Within printing activities, ICTs have also led to a widespread change in the production process. For example, much of the preparation and setting of printed matter is now controlled or assisted by computers.

STRUCTURAL PROFILE

The total value added generated in the EU-25's publishing and printing sector (NACE Groups 22.1 and 22.2) reached EUR 87.3 billion in 2002, some 5.0 % of industrial (NACE Sections C to E) value added. There were 1.8 million persons employed in these activities in the EU-25, which represented a slightly higher share of the industrial workforce (5.1 %). Wealth creation in the publishing and printing sector was relatively balanced between the two activities, as publishing (NACE Group 22.1) contributed 51.2 % of EU-25 value added in 2002 and the remaining 48.8 % came from

printing (NACE Group 22.2). However, the printing subsector was more labour intensive, accounting for 56.4 % of the total number of persons employed in the publishing and printing sector.

Turning to the Member States, there was no clear pattern as to the importance of one or other of the subsectors. In 2002, publishing accounted for more than half of total value added in 12 of the 23 Member States for which data are available ⁽⁴⁷⁾, from a high of 62.4 % in Lithuania, and 60.5 % in Finland, to a low of 34.7 % in Belgium (2001), 31.8 % in Cyprus, and 30.9 % in Malta.

The United Kingdom (27.3 %), Germany (21.2 %) and France (12.5 %) contributed almost two thirds of the EU-25's value added in publishing and printing activities in 2002. Moreover, the United Kingdom was also the most specialised Member State in publishing and printing activities, when looking at the relative contribution of this sector to industrial value added in relation to the EU-25 average. Publishing and printing activities in the United Kingdom generated 8.6 % of industrial value added, almost twice the EU-25 average. Other Member States that were relatively specialised compared with the EU-25 average included the Netherlands (7.7 % of industrial value added), Malta (7.3 %), Latvia (6.1 %, 2001), Denmark (5.8 %), Finland and Estonia (both 5.1 %). The lowest contribution of publishing and printing activities to national industrial value added was 2.4 % in Slovakia.

In terms of employment, Germany contributed the highest proportion of the EU-25's workforce in publishing and printing activities, accounting for 20.9 % of the total number of persons employed. The United Kingdom followed, with 19.8 %, while France was the third largest employer (11.5 %).

⁽⁴⁷⁾ Belgium and Latvia, 2001; Greece and Luxembourg, not available.

Table 23.23
Publishing; printing and service activities related to printing (NACE Groups 22.1 and 22.2)
Structural profile: ranking of the top 3 Member States, 2002

Rank	Share of EU-25 value added (%) (1)	Industrial value added specialisation (EU-25=100) (2)	Share of EU-25 employment (%) (3)	Industrial employment specialisation (EU-25=100) (4)
1	United Kingdom (27.3)	United Kingdom (185.6)	Germany (20.9)	Denmark (189.5)
2	Germany (21.2)	Netherlands (161.2)	United Kingdom (19.8)	Netherlands (179.6)
3	France (12.5)	Malta (142.7)	France (11.5)	United Kingdom (177.3)

(1) Belgium and Latvia, 2001; Greece and Luxembourg, not available.

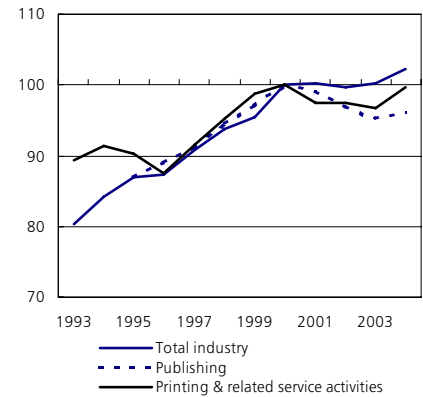
(2) Belgium and Latvia, 2001; Greece, Ireland and Luxembourg, not available.

(3) Greece and Luxembourg, not available.

(4) Latvia, 2001; Greece, Ireland and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Figure 23.10
Publishing; printing and service activities related to printing (NACE Groups 22.1 and 22.2)
Evolution of the index of production, EU-25 (2000=100)



Source: Eurostat, Short-term Business Statistics - Monthly and Quarterly (Industry, Construction, Retail Trade and Other Services)

Annual short-term statistics show that between 1996 and 2000, the production indices for both publishing and printing evolved in a similar manner to that for the whole of the industrial economy. EU-25 publishing output grew on average by 3.0 % per annum, while that of printing rose by an average of 3.4 % per annum, the same as the industrial average. However, both publishing and printing experienced a downturn in output during the years that followed: the index of production fell on average by 2.0 % per annum between 2001 and 2003 for publishing, while the decrease was less marked for printing at 0.4 % per annum over the same period. For comparison, during the same period of time industrial output fell only in 2002 (by 0.6 %). In 2004 there was renewed growth for both publishing and printing, as EU-25 output expanded by 1.1 % and 3.1 % respectively, compared with an industrial average of 2.4 %.

Table 23.24

Publishing; printing and service activities related to printing (NACE Groups 22.1 and 22.2)
Labour productivity, personnel costs and gross operating rate:
ranking of the top 3 Member States, 2002

Rank	Apparent labour productivity (EUR thousand) (1)	Average personnel costs (EUR thousand) (2)	Wage adjusted labour productivity (%) (2)	Gross operating rate (%) (1)
1	United Kingdom (66.0)	Austria (44.5)	Latvia (267.4)	Latvia (39.0)
2	Netherlands (60.5)	Belgium (44.2)	Malta (203.5)	Malta (28.7)
3	Austria (60.0)	France (43.6)	Slovakia (180.8)	United Kingdom (19.2)

(1) Belgium and Latvia, 2001; Greece and Luxembourg, not available.

(2) Belgium and Latvia, 2001; Greece, Cyprus and Luxembourg, not available.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

The index of domestic output prices followed an upward trend for the years 1995 to 2004 for publishing, with average annual growth in the EU-25 of 2.0 % per annum. In contrast, domestic output prices for printing alternated between periods of growth (with annual growth rates less than 2.0 %) and decrease (-0.9 % at their largest in 1997).

PRODUCTIVITY AND PROFITABILITY

Apparent labour productivity for the EU-25's publishing and printing sector stood at EUR 47 900 per person employed in 2002, which was EUR 1 200 above the industrial average. There was a significant difference between the level of productivity recorded for each of the subsectors, as each person employed generated an average of EUR 56 200 within publishing, while the corresponding ratio for printing was EUR 41 500.

Average personnel costs per employee were generally higher for publishing and printing activities than for the whole of the industrial economy in those Member States for which data are available ⁽⁴⁸⁾, rising to EUR 4 300 per employee higher than the national industrial average in Poland; although average personnel costs were as much as EUR 7 900 lower than the industrial average in Denmark.

The wage adjusted labour productivity ratio for publishing and printing activities showed that value added per person employed tended to exceed personnel costs per employee in 2002, although usually to a lesser extent than national industrial averages. In Poland, average personnel costs in publishing and printing activities were

⁽⁴⁸⁾ Belgium and Latvia, 2001; Greece, Cyprus and Luxembourg, not available.

not covered by value added per person employed, as the wage adjusted labour productivity ratio stood at 84.1 %.

EXTERNAL TRADE

The EU-25 was a net exporter of published and printed goods in 2004, with a trade surplus equal to EUR 2.9 billion for printed matter and recorded media and printing services (CPA Groups 22.1 and 22.2), of which 78.7 % of the surplus could be attributed to books, newspapers and other printed matter and recorded media (CPA Group 22.1).

Among the EU Member States, Germany was the largest exporter of published and printed goods, with exports valued at EUR 4.4 billion (intra- and extra-EU trade combined), followed by the United Kingdom (EUR 3.8 billion). The United Kingdom was also the largest importer, with imports of published and printed goods valued at EUR 2.8 billion in 2004, followed by France and Germany (both EUR 2.2 billion). As a result, the largest trade surplus for published and printed goods in 2004 was recorded in Germany (EUR 2.3 billion), followed by the United Kingdom (EUR 1.0 billion). Looking at the largest deficits among the Member States for these products, Portugal registered a negative trade balance of EUR 219.8 million, while the deficit stood at EUR 263.4 million in France and EUR 276.5 million in Austria.

Table 23.25

Publishing, printing, reproduction of recorded media (NACE Division 22)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	243 049	6 258	1 882	4 461	49 416	192	:	15 962	34 142	10 208	25 601	132	214	249	:	1 866	129
Production (EUR million) (2)	238 989	6 166	1 840	4 482	48 900	175	:	15 972	32 920	9 925	25 435	134	221	249	:	1 485	128
Value added at factor cost (EUR million) (3)	92 224	2 150	573	1 872	19 038	71	:	6 088	11 051	3 272	8 703	60	126	86	:	460	66
Gross operating surplus (EUR million) (3)	31 924	708	262	430	4 494	23	:	2 322	1 981	2 564	4 144	19	81	35	:	190	37
Purchases of goods and services (EUR million)	:	3 857	1 357	2 632	29 874	120	:	10 329	23 355	7 018	16 909	74	127	161	:	1 386	61
Gross investment in tangible goods (EUR million)	:	277	99	258	1 841	8	:	742	939	138	1 143	10	15	26	:	86	13
Number of persons employed (thousands)	1 872	34	43	48	389	6	:	148	213	18	170	2	9	10	:	43	2
Personnel costs (EUR million) (3)	60 300	1 442	310	1 442	14 544	48	:	3 766	9 069	708	4 559	41	46	51	:	270	29
App. labour productivity (EUR thous./pers. emp.) (3)	49.3	56.6	13.4	39.3	48.9	12.5	:	41.1	51.8	177.0	51.1	26.7	13.6	8.3	:	10.8	32.0
Average personnel costs (EUR thous./employee) (3)	35.4	44.1	9.6	30.9	38.8	8.6	:	28.1	43.5	38.8	34.8	:	5.1	5.2	:	7.7	15.7
Wage adjusted labour productivity (%) (3)	139.1	128.5	139.8	127.0	126.1	145.0	:	146.1	119.1	456.5	146.8	:	268.5	160.3	:	140.1	203.6
Gross operating rate (%) (3)	13.1	10.8	13.9	9.6	9.1	12.2	:	14.5	5.8	25.1	16.2	:	14.4	38.8	:	10.2	28.6
Investment per person employed (EUR thousand)	:	8.2	2.3	5.4	4.7	1.4	:	5.0	4.4	7.5	6.7	:	4.6	1.6	:	2.0	6.3
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	13 012	4 418	4 724	2 330	706	455	4 091	6 971	53 906	252	:	631	:	:	:	4 513	7 486
Production (EUR million)	12 907	4 288	4 491	2 316	667	439	4 135	6 954	52 309	241	:	571	:	:	:	4 562	7 585
Value added at factor cost (EUR million)	5 193	1 804	1 540	938	212	132	1 659	2 310	24 260	64	:	215	:	:	:	1 957	3 631
Gross operating surplus (EUR million)	1 972	622	249	333	44	60	544	380	10 374	30	:	138	:	:	:	492	772
Purchases of goods and services (EUR million)	7 764	2 651	3 053	1 416	451	328	2 535	4 765	29 390	194	:	434	:	:	:	2 663	3 947
Gross investment in tangible goods (EUR million)	444	318	204	220	40	27	189	268	2 198	28	:	70	:	:	:	112	:
Number of persons employed (thousands)	85	28	92	35	10	11	30	54	370	14	:	31	:	:	:	31	48
Personnel costs (EUR million)	3 221	1 182	1 292	605	168	73	1 126	1 930	13 886	34	:	77	:	:	:	1 465	2 860
App. labour productivity (EUR thous./pers. emp.)	61.0	64.6	16.7	26.8	20.7	12.5	55.0	42.9	65.6	4.6	:	6.9	:	:	:	63.4	75.4
Average personnel costs (EUR thous./employee)	41.0	44.3	19.9	18.1	17.5	6.9	38.0	39.5	40.7	2.7	:	2.7	:	:	:	47.8	:
Wage adjusted labour productivity (%)	148.7	145.6	84.3	148.1	117.8	181.0	144.7	108.6	161.1	168.7	:	254.4	:	:	:	132.6	:
Gross operating rate (%)	15.2	14.1	5.3	14.3	6.2	13.1	13.3	5.5	19.2	11.9	:	21.9	:	:	:	10.9	10.3
Investment per person employed (EUR thousand)	5.2	11.4	2.2	6.3	3.9	2.5	6.3	5.0	5.9	2.0	:	2.2	:	:	:	3.6	:

(1) Switzerland, 2001. (2) EU-25, 2001. (3) Belgium and Latvia, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 23.26

Post and telecommunications (NACE Division 64)
Main indicators, 2002

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	450 514	12 757	4 292	7 658	75 898	501	32 058	67 107	8 675	54 378	438	644	759	1 355	4 508	243	
Production (EUR million) (1)		12 448	3 576	7 676	67 023	500	26 066	64 670	6 180	54 799	437	609	752	1 210	3 286	246	
Value added at factor cost (EUR million) (2)	214 888	5 831	1 955	3 610	39 068	244	16 224	33 017	4 685	26 110	368	389	369	836	2 111	190	
Gross operating surplus (EUR million) (1)	106 367	2 198	1 323	1 497	17 830	178	10 836	10 075	3 469	16 297	256	294	264	615	1 292	134	
Purchases of goods and services (EUR million) (3)	226 239	6 938	1 923	4 548	42 643	255	16 240	35 581	3 950	28 072	67	261	420	506	2 634	53	
Gross investment in tangible goods (EUR million) (2)		1 708	1 402	1 094	6 297	62	4 249	6 475	680	6 036	86	167	169		676	65	
Number of persons employed (thousands) (4)	3 112	80	76	54	592	8	183	475	31	273	4	15	16	4	69	3	
Personnel costs (EUR million) (1)	108 521	3 633	632	2 112	21 238	66	5 388	19 522	1 216	9 813	112	95	105	221	819	56	
App. labour productivity (EUR thous./pers. emp.) (1)	69.1	70.2	27.8	66.4	66.0	29.6	88.7	62.4	152.8	95.6	98.3	26.0	22.5	206.5	30.5	60.3	
Average personnel costs (EUR thous./employee) (1)	35.9	44.9	9.0	39.3	36.3	8.0	30.6	41.2	40.7	36.4	30.1	6.4	6.4	54.9	12.3	17.9	
Wage adjusted labour productivity (%) (1)	192.2	156.4	307.7	169.0	181.6	368.1	289.8	151.4	375.5	262.7	326.8	408.8	348.5	376.1	249.1	337.5	
Gross operating rate (%) (1)	23.6	17.6	34.9	19.6	23.5	35.6	33.8	15.5	40.0	30.0	58.5	45.7	34.8	45.4	28.7	55.2	
Investment per person employed (EUR thousand) (1)		20.6	20.0	20.1	10.6	7.5	23.2	15.6	22.2	22.1	23.0	11.2	10.3		9.8	20.7	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	23 907	8 538		7 347	1 044	1 206	7 565	12 146	99 192	1 357		2 384				8 773	
Production (EUR million)	23 573	6 108		7 186	956	1 122	7 508	12 267	93 529	1 299		2 311				8 755	
Value added at factor cost (EUR million)	10 929	4 179		3 455	306	642	2 685	5 563	42 349	731		1 278				3 679	
Gross operating surplus (EUR million)	6 165	2 103		2 124	75	434	1 248	2 219	17 767	551		727				1 686	
Purchases of goods and services (EUR million)	13 099	4 510		4 175	545	557	5 166	6 980	55 893	654		1 093				5 101	
Gross investment in tangible goods (EUR million)		1 110		1 343	227	275	904	2 117	13 015	334		645				961	
Number of persons employed (thousands)	125	57		38	12	32	41	85	566	52		94				40	
Personnel costs (EUR million)	4 764	2 076		1 331	231	208	1 437	3 345	24 583	180		551				1 993	
App. labour productivity (EUR thous./pers. emp.)	87.6	73.3		91.9	25.2	20.1	64.9	65.3	74.8	14.0		13.6				92.4	
Average personnel costs (EUR thous./employee)	39.1	36.6		35.5	19.6	6.5	34.9	39.5	44.3	3.6		6.0				50.9	
Wage adjusted labour productivity (%)	223.9	200.2		259.0	128.3	308.9	186.3	165.4	168.7	391.8		225.9				181.4	
Gross operating rate (%)	25.8	24.6		28.9	7.2	36.0	16.5	18.3	17.9	40.6		30.5				19.2	
Investment per person employed (EUR thousand)		19.5		35.7	18.6	8.6	21.9	24.8	23.0	6.4		6.9				24.1	

(1) Belgium, the Czech Republic and France, 2001. (2) Belgium and the Czech Republic, 2001. (3) EU-25, Belgium, the Czech Republic and France, 2001.

(4) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics

Table 23.27

Computer and related activities (NACE Division 72)
Main indicators, 2002 (1)

	EU-25	BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT	LU	HU	MT
Turnover (EUR million)	295 021	8 622	2 146	6 126	54 255	117	15 210	39 488	6 612	36 656	100	140	156	625	2 283	70	
Production (EUR million) (2)	261 799	7 411	1 424	5 408	44 792	100	12 372	36 704	5 896	34 937	88	132	116	524	1 230	66	
Value added at factor cost (EUR million) (3)	148 024	2 937	684	2 743	28 718	42	7 114	19 152	2 618	15 919	61	87	49	262	610	40	
Gross operating surplus (EUR million) (4)	44 304	561	249	543	9 091	7	1 515	925	1 667	6 123	17	44	21	15	234	21	
Purchases of goods and services (EUR million) (2)	151 698	4 813	1 260	3 548	27 445	75	8 400	21 237	4 018	19 464	38	51	105	360	1 676	30	
Gross investment in tangible goods (EUR million) (3)		577	80	200	2 264	4	617	5 322	66	2 523	11	9	6		123	2	
Number of persons employed (thousands) (5)	2 488	49	45	40	378	3	174	336	22	362	1	5	5	5	53	2	
Personnel costs (EUR million) (4)	103 720	2 376	435	2 200	19 627	35	5 600	17 649	951	9 796	43	43	28	247	376	19	
App. labour productivity (EUR thous./pers. emp.) (4)	59.5	59.4	15.9	68.1	76.0	12.6	40.9	55.4	117.9	44.0	41.1	16.9	10.7	53.9	11.6	26.5	
Average personnel costs (EUR thous./employee) (4)	49.1	58.4	14.1	57.8	56.8	11.3	35.5	53.1	48.3	38.1	30.1	8.4	7.0	53.3	11.4	18.9	
Wage adjusted labour productivity (%) (4)	121.2	101.7	113.0	117.9	133.8	111.0	115.2	104.3	243.8	115.7	136.6	201.3	152.4	101.1	102.0	140.7	
Gross operating rate (%) (4)	15.0	7.2	12.7	8.9	16.8	6.0	10.0	2.3	25.2	16.7	17.1	31.4	13.2	2.4	10.3	29.6	
Investment per person employed (EUR thousand) (4)		11.7	1.9	5.0	6.0	1.1	3.6	4.0	3.0	7.0	7.3	1.8	1.3		2.3	1.6	
	NL	AT	PL	PT	SI	SK	FI	SE	UK	BG	HR	RO	TR	IS	LI	NO	CH
Turnover (EUR million)	14 570	5 528	3 246	1 294	529	438	4 031	12 697	74 459	149		580				5 886	8 287
Production (EUR million)	13 912	4 500	2 595	1 180	390	357	3 892	12 210	68 083	134		416				5 473	8 717
Value added at factor cost (EUR million)	7 500	2 561	1 177	589	169	159	1 988	5 641	43 819	50		200				2 689	5 404
Gross operating surplus (EUR million)	1 871	845	99	144	43	70	206	225	16 382	18		97				178	837
Purchases of goods and services (EUR million)	5 232	3 092	1 929	764	336	280	2 106	7 252	30 457	99		387				3 228	3 311
Gross investment in tangible goods (EUR million)	239	261	99	113	20	13	111	483	2 699	14		31				302	
Number of persons employed (thousands) (5)	113	45	69	17	6	8	38	114	566	11		23				39	59
Personnel costs (EUR million)	5 630	1 715	1 078	445	126	89	1 782	5 416	27 437	33		104				2 512	4 567
App. labour productivity (EUR thous./pers. emp.)	66.5	56.4	17.1	34.3	27.4	18.8	52.0	49.5	77.4	4.7		8.8				68.8	91.6
Average personnel costs (EUR thous./employee)	54.2	48.4	29.9	28.3	23.4	10.7	47.7	55.5	56.1	3.9		5.3				70.1	
Wage adjusted labour productivity (%)	122.5	116.5	57.0	121.3	116.7	175.3	109.0	89.2	138.1	118.6		166.6				98.1	
Gross operating rate (%)	12.8	15.3	3.0	11.1	8.1	15.9	5.1	1.8	22.0	11.8		16.6				3.0	10.1
Investment per person employed (EUR thousand)	2.1	5.8	1.4	6.6	3.3	1.6	2.9	4.2	4.8	1.3		1.3				7.7	

(1) Switzerland, 2001. (2) EU-25, Belgium, the Czech Republic and France, 2001. (3) Belgium and the Czech Republic, 2001.

(4) Belgium, the Czech Republic and France, 2001. (5) France, 2001.

Source: Eurostat, Structural Business Statistics (Industry, Construction, Trade and Services), Annual enterprise statistics